MYRMECIA

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AUST. ENTOMOL. SOC.
EXECUTIVE ADDRESS
Aust. Entomol. Soc. Executive
c/- Dept of Crop Protection
Waite Campus
University of Adelaide
South Australia 5064
AUSTRALIA

OFFICE BEARERS

President
Prof. R.E. Jones
Pro-Vice Chancellor
James Cook University,
Townsville, Qld 4811
Ph (077) 81 4540
Fax (077) 25 1570

Vice President
Dr P.G. Allen
c/- Executive address above
Ph (08) 303 9530
Fax (08) 303 9555
Email allen.peter@pi.sa.gov.au

Secretary
Dr P.E. Madge
c/- Executive address above
Ph (08) 370 2987
Fax (08) 370 2987

Treasurer
Mr J.T. Jennings
c/- Executive address above
Ph (08) 303 7842
(08) 303 7277
Fax (08) 303 7960
Email: jjenning@roseworthy.adelaide.edu.au

News Bulletin Editor
Dr M.J. Fletcher
BCRI, NSW Agriculture
PMB 10 Rydalmere, NSW 2116
Ph (02) 683 9752
Fax (02) 630 4475
Email fletchm@agric.nsw.gov.au

Public Officer
Dr I.D. Naumann
CSIRO Entomology
Box 1700 Canberra ACT 2601
Ph (06) 246 4262
Fax (06) 246 4000
Email iann@ento.csiro.au

Chief Editor
Dr P.G. Allsopp
Sthn Sugar Experiment Stn
Box 651 Bundaberg, Q 4670
Ph (071) 59 3228
Fax (071) 59 3383

Immediate Past President
Dr G.H.S. Hooper
Aust. Plague Locust Comm.
GPO Box 858
Canberra ACT 2601
Ph (06) 272 5727
Fax (06) 272 5074

Technical Editors
Dr A.L. Bishop
Horticultural Research Station
Box 581 Gosford NSW 2250
Ph (043) 28 0328

Dr I.D. Naumann
CSIRO Entomology
Box 1700 Canberra ACT 2601
Ph (06) 246 4262
Fax (06) 246 4000

Dr A. Wapshere
CSIRO Entomology
Box 1700 Canberra ACT 2601
Ph (06) 246 4137
Fax (06) 246 4000

Business Manager
Ms A. Roach
CSIRO Entomology
Box 1700 Canberra ACT 2601
Ph (06) 246 4287
Fax (06) 246 4000
Email roachie@ento.csiro.au

CONSERVATIONCOMMITTEE

Dr A. Wells (ACT) (Convenor)
Ph (06) 250 9444
Fax (06) 250 9448
Email awells.abrscbr@anca.erin.gov.au

Dr T. New (Vic)
Ph (03) 479 1111
Fax (03) 478 5814

Dr R. Coy (Vic)
Ph (03) 419 5200
Fax (03) 416 0475

Dr P. Horne (Vic)
Ph (03) 810 1528
Fax (03) 819 5653

Dr E.G. Matthews (SA)
Ph (08) 207 7500
Fax (08) 207 7222

Dr A.N. Andersen (NT)
Ph (089) 22 1727
Fax (089) 47 0052

Mr P. Dostine (NT)
Ph (089) 79 9711
Fax (089) 79 2076

Ms G. Carruthers (ACT)
Ph (06) 272 5070
Fax (06) 272 5074

Dr G. Friend (WA)
Ph (09) 405 5121
Fax (09) 306 1641

Dr J. Majer (WA)
Ph (09) 350 7964
Fax (09) 351 2495

Dr R.V. Gunning (NSW)
Ph (067) 67 9300
Fax (067) 67 9370

Mr G. Williams (NSW)
Ph (02) 339 8111

Vice President & Secretary are *ex officio* members of the Conservation Committee

HONORARY MEMBERS

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Dr I.F.B. Common
Dr E.N. Marks
Dr K.R. Norris
Dr C.N. Smithers
Dr D.F. Waterhouse

MACKERRAS MEDALLISTS

1984 Dr J.A.L. Watson
1986 Dr R.W. Sutherst
1988 Dr T.R. New
1990 Dr R.A.I. Drew
1992 Dr E.S. Nielsen

SUSTAINING ASSOCIATES

Australian Entomological Supplies
Ciba-Geigy Ltd
Cyanamid Australia Pty Ltd
Dow Chemical (Aust) Ltd
Hoechst-Schering AgrEvo Pty Ltd
ICI Australia Ltd

THE COVER

The cover for this year's *Myrmecia* features an illustration of a species of *Myrmecia* (HYM: Formicidae; Myrmeciinae). *Myrmecia gulosa* was selected as the emblem of the Australian Entomological Society as one of the earliest species collected and described from Australia having been collected by Joseph Banks at Botany Bay in 1770.

This illustration of the winged adult was prepared by **Catherine Symington** of the Institute for Horticultural Development, Knoxfield, Victoria.

MYRMECIA

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ADVERTISING RATES FOR MYRMECIA

	Single Issue	4 Issues (One year)
Full Page	$60	$180
Half Page	$35	$105
Quarter Page	$24	$72

These rates apply to camera-ready copy supplied by the advertiser. Where this is not supplied, an additional charge may be made for the layout.

In addition, loose inserts and pamphlets supplied by the advertiser will be included in a mailout for $100 per item. The items should be of a size which will not project beyond the pages of *Myrmecia*.

NOTICE

Statements made in *Myrmecia* do not necessarily represent the views of the Australian Entomological Society. Items printed herein should not be reproduced without permission of the author of the material.

COPY DEADLINE FOR NEXT ISSUE

Material for publication in the May 1995 issue of *Myrmecia* should be in the hands of the Editor at the address below by **Friday 21 April 1995**. Submission in ASCII or uuencoded format to the editor's email address (fletchm@agric.nsw.gov.au) is preferred but submission on IBM-compatible floppy disk in a major word processing format, or by fax, letter or carrier pigeon to the address below is acceptable.

Murray FLETCHER
News Bulletin Editor
Biological and Chemical Research Institute
PMB 10, Rydalmere, NSW 2116
Fax: (02) 630 4475

NOTE FROM THE TREASURER

Membership fees for 1995 fell due on 1 January. The following members have not yet paid for their 1994 membership and will receive no further issues of the Society's publications until the arrears have been paid.

Names appearing with an asterisk * have also not paid for 1993 and have therefore been excluded from membership. These members will need to renominate for membership and pay the full amount outstanding before their membership renewal will be accepted (Society Rule 21(c)).

This list was current in mid-February so if you have paid recently you will continue to receive Society publications as normal.

* Mr RS Abbott
Mr C Adamson
Mr RB Allanson
Mr GW Anderson
* Mr DJ Atkinson
* Mr AR Ayass
* Ms JJ Beard
Mr VR Bejsak
Miss JA Berry
* Dr KC Binnington
* Ms LR Blanco
Mr M Cahill
* Dr DJ Campbell

Mr J Casotti
* Miss LJ Charlton
Dr GM Clarke
Miss AA Condello
Dr IM Cook
* Dr J Cook
Ms R Crnov
* Mr R Dallwitz
Mr PR Davis
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Dow Elanco Aust
Mr R Drueke
* Dr J Edgar
Dr HJ Elliott
Mr M Ellis
* Dr D.E. Evans
* Miss JA Ewers
* Mr K Farrow
* Mrs LCP Fernando
Dr BS Fletcher
Mr GJ Floater
* Dr GG Foster
* Mr M Gardiner
Dr DT Gwynne
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Dr J Hii
Mr MA Horwood
Mr NM Hudson
Dr L Hughes
A Hunt
* ICI AUST Operations
* Miss R Jackson
Mrs BM Johns
Ms K Johnson
Mr A Kennett
Mrs ES Kentjonowati
Dr TJ Kingston
* Miss MW Kinuthia
Mr D Kitchen
* Dr RM Lardner
* Mr A Lawanprasert
Mr PFS Liehne
* Mr DP Liosatos
* Mr M Manning
* Ms LF McGowan
* Ms JA Melksham
* AM Milankovic
Mr AT Mills
* Mr AD Moore
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* Dr BP Oldroyd
* Dr R. Peakall
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* Mr DG Phelps
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* Mr GJ Sant
Dr M Schwarz
* Ms SA Scougall
* Mr AI Shelley
* Miss ML Sommers
Mr ME Sparks
* Dr H Spencer
Mr CJ Stafford
Dr D Steven
Mr MJ Storrs
* Mr Sutrisno
* Ms A Taylor
Prof IWB Thornton
Mr E Turak
* Mr J Turnbull
Mr JE Van Graver
Mr G.K. Waite
Mr DD Wallace
* Dr S Ward
* Mr S Watanasit
Mr M Wegecsanyi
Mr S Williams
Mr EC Wilson
* Mr AE Wright
Mr J Zhang

List as per 17 February 1995.

EXECUTIVE REPORT

MEETINGS

The Core Executive met on 1 December 1994 and 6 January 1995.

NEW MEMBERS

We welcome the following new members to 1995 membership:

Elected 1 December 1994

Dr MJ COLLOFF, PhD, CSIRO Division of Entomology, GPO Box 1700, Canberra ACT 2601. Dr Colloff is a Research Scientist in Soil Biodiversity and has interests in several areas of

soil zoology, particularly soil mites.

Mr DJ JACKMAN, BSc, 173 Portrush Rd, Maylands SA 5069. Mr Jackman is a Research Assistant and Graduate Student in the Dept of Crop Protection, Waite Campus, University of Adelaide, Glen Osmond SA 5064.

Elected 6 January 1995

Dr PD COOPER, PhD, Division of Botany & Zoology, The Australian National University, Canberra ACT 0200. Dr Cooper is a Senior Lecturer at ANU and has interests in insect physiology and ecology.

Mr B HETERICK, BSc(Hons), Dept of Entomology, University of Queensland Qld 4072. Mr Heterick has an interest in the Hymenoptera and has a PhD project on *Monomorium* ants.

Ms DK KNIHINICKI, BSc, 78 Vine St, Chippendale NSW 2008. Ms Knihinicki is with BCRI, NSW Agriculture, Rydalmere, where she is involved in studies of mites associated with plants.

Mr A LUCAS, PO Box 45, Watson ACT 2602. Mr Lucas is a postgraduate student, Division of Botany & Zoology, The Australian National University.

Mr D REES, BSc, CSIRO Division of Entomology, GPO Box 1700, Canberra ACT 2601. Mr Rees has had considerable experience overseas in studies of pests of stored products and is now engaged in these studies in Australia.

Resignations from Membership

(Received with regret)

Ms VJ BARRETT

Dr TR GLARE

Mr RC LEWIS

Dr RJ ROBERTS

Change of Address or Title

Dr EJ BARTOWSKY, The Australian Wine Research Institute, PO Box 197, Glen Osmond SA 5064

Dr M BENGSTON, 39 Rothesay St, Kenmore Qld 4069

Miss JA BERRY, New Zealand Arthropod Collection, Mt Albert Research Centre, PB 92 169, Auckland NEW ZEALAND.

Dr DG BLACK, School of Zoology, La Trobe University, Bundoora Vic 3083

Dr CC BOWER, PO Box 300, Orange NSW 2800

Dr MF BRABY, CSIRO Divn of Entomology, GPO Box 1700, Canberra ACT 2601. Title change to Dr, address change to Canberra and status to Full Member

Prof. D.J. BROTHERS, Zoology Dept, University of Natal, Private Bag X01, Scottsville, South Africa 3209 (change of address and title)

Mr MDMA CHOWDHURY, 7 Ontario Ave, Panorama SA 5041

Ms TB CHURCHILL, Faculty of Environmental Sciences, Griffith University, Nathan Qld 4111

Mr PG COLE, Institute for Horticultural Development, Private Bag 15, South-Eastern Mail Centre, Vic 3176

Mr MJ CROUCH, 25 Manchee St, Biniguy NSW 2394

Cyanamid Aust Pty Ltd, Attn: Mr SM Jones, Agric. Products Divn, 5 Gibbon Rd, Baulkham Hills NSW 2153

Ms AJ DAVIS, 6 Jane St, Arana Hills Qld 4054

Dr PJ DE BARRO, 2 Stanfield Close, Kamban ACT 2902; title and address change

Dr ES DELFOSSE, 10696 Graelock Rd, Laurel MD 20723-1188 USA

Ms CG DITCHFIELD, Campbell Bros, Byron St, Inverell NSW 2360. Ms Ditchfield's status has altered from Full to Student; she is a student at Griffith University.

Mr PL DOSTINE, Conservation Commission of the Northern Territory, PO Box 496, Palmerston NT 0831

Ms HS DUNGEY, CRC for Temperate Hardwood Forestry, GPO Box 252C, Hobart Tas 7001

Mr CS EASTON, c/o Tweed Shire Council, PO Box 816, Murwillumbah NSW 2490

Mrs JK ELDER (née LAYLAND), PO Box 1091, Lismore NSW 2480

Ms NM ENDERSBY, Institute for Horticultural Development, Private Bag 15, South Eastern Mail Centre Vic 3176

Dr P FERRAR, title change from Mr

Dr GP FITT, CSIRO Divn of Entomology, PO Box 59, Narrabri NSW 2390

Mr CW FEUTRILL, PO Box 777, Renmark SA 5341

Mr M GIBIAN, 55 Talan Lim Tai See, No. 01-05 Promises Gardens, SINGAPORE 1026

Mr AS GREEN, Citrus Board of South Australia, 6 Armson Ave, Magill SA 5072

Miss JF GRIMSHAW, title change from Ms

Mr RJ HARDY, Specialist Agricultural Services Pty Ltd, RSD 2461, Sorell Tas 7172

Ms KL HERGSTROM, The Esplanade, Torquay Vic 3228

Dr GA HERRON, title change from Mr
Mr A HILLER, Mt Glorious Biological Centre, Main Rd, Mt Glorious Qld 4520
Ms RJ HOLLAND, School of Biological Sciences, Macquarie University NSW 2109
Dr DS HORNING, status change to Retired Member
Prof. HF HOWDEN, title change from Dr
Dr PB HUGHES, Sandoz Australia Pty Ltd, PO Box 101, North Ryde NSW 2113
Ms M HUMPHREY, 24 Orana Ave, Hornsby NSW 2077
Ms HA JANETZKI, PO Box 296, Samford Qld 4520
Ms ML JOHNSON, Hill Cottage, Boorolong Rd, Armidale NSW 2350
Mr A KENNETT, Box 148, Maroochydore Qld 4558
Prof. JFR KERR, status change to Retired Member
Miss S KHAN title change to Ms S KHAN
Dr RM LARDNER, 21 Stanley St, Tempe NSW 2044
Ms JA LATCHFORD, Institute for Environmental Science, Murdoch University, Murdoch WA 6150
Dr SA LAWSON, title change from Mr
Dr C LOKKERS, 31 Harding Ave, Mundingburra Qld 4812
Assoc. Prof. F.J.D. McDONALD (change to retired member)
Dr JL MADDEN, Dept of Agricultural Science, University of Tasmania, GPO Box 252C, Hobart Tas 7001
Dr DA MAELZER, Lot 7, Woodland Rd, Gatton Qld 4343
Dr EN MARKS, PO Box 219, Samford Qld 4520.
Dr PJ MARTIN, Mallinckrodt Veterinary Ltd, PO Box 777, North Ryde NSW 2113
Dr GV MAYNARD, title change from Ms; address change to 16 McCawley St, Watson ACT 2602
Mrs LJ McLEOD, 12 Lee St, Molong NSW 2866
Dr PB McQUILLAN, Dept of Geography & Environmental Studies, University of Tasmania, GPO Box 252C, Hobart Tas 7001
Mr MS MOULDS, postal address 16 Park Ave, Waitara NSW 2077
Dr GM NAPIER, title change from Miss
Mr A NEWMAN, status change from Student to Full Membership; address change to 12/26 Cook St, Glebe NSW 2037
Mr RG PIPER, Scientific Advisory Services Pty Ltd, PO Box 1056, Tully Qld 4854
Dr TK QIN, CSIRO Division of Entomology, GPO Box 1700, Canberra ACT 2601
Dr AC RATH, title change from Mr; address change to EcoScience Corp., 377 Plantation St, Worcester MA 01605 USA
Dr CAM REID, Dept of Zoology, James Cook University, Townsville Qld 4810
Mr N RENFREY, 3 Hassell Cret, Irymple Vic 3498
Mr GS RICHMOND, PO Box 547, Nedlands WA 6009
Dr GD RIPPON, Environmental Protection Agency, Risk Assessment Section, 40 Blackall St, Barton ACT 2600
Ms ML RODGERSON, title change from Miss
Dr GHL ROTHSCHILD, Director-General, International Rice Research Institute, PO Box 933, 1099 Manila PHILIPPINES (from 31 March 1995)
Mr D RUGG, Merck, Sharp & Dohme Veterinary Research Laboratory, PO Box 135, Ingleburn NSW 2565
Mr BCG SCHOLZ, Qld Dept of Primary Industries, PO Box 102, Toowoomba Qld 4350
Dr DD SHAW, RSBS, Australian National University, Canberra ACT 0200
Mr GP SHELDON, 8/41 Morang Rd, Hawthorn Vic 3122
Mr GR STRICKLAND, WA Dept of Agriculture, Baron-Hay Court, South Perth WA 1651
Ms CA SYMINGTON, 14 Comrie Crt, Bayswater Vic 3153
Ms TA THUMLERT, Dow Elanco Aust Ltd, PO Box 1117, Moree NSW 2400; address and title change; status change to Full Member.
Mr JW TURNER, PO Box 497, Spring Hill Qld 4004
Dr M TYNDALE-BISCOE, status change to Retired Member
Dr DE WALTER, Dept of Entomology, University of Queensland, Qld 4072
Dr Q WANG, Dept of Entomology, University of California, Riverside CA 92521 USA, title change from Mr to Dr, status change from Student to Full Member, new address; airmail postage of Journal and News Bulletin
Dr A.J. WAPSHERE (change to retired member)
Dr DK YEATES, Dept of Entomology, University of Queensland, Qld 4072
Dr CM YULE, PO Box 269, Balikpapan, Kalimantan, INDONESIA

Addresses Unknown
Mrs A DE MIRA

Dr KC BINNINGTON
Mr K FARROW
Mr NM HUDSON
A HUNT
Ms JA MELKSHAM
AM MILANKOVIC
Dr HC PARK
Mr HG PERONA
Mr AA SANDERSON
Mr AI SHELLEY
Mr S WATANASIT
Dr T WOODWARD

Airmail Postage

Mr AJ ALLWOOD, PO Box 10538, Nabua, Suva FIJI

Dr MWJ CROSSLAND, Dept of Biology, China University of Hong Kong, Shatin NT, HONG KONG

Dr J KOJIMA, Dept Biology, Faculty of Science, Ibaraki University, Mito 310 JAPAN

Dr Q WANG, Dept of Entomology, University of California, Riverside CA 92521 USA

FROM MINUTES OF THE CORE EXECUTIVE

Vale

The Executive recorded with regret the passing of **Mr GC Cope**, late of Faulconbridge NSW.

The Executive is pleased to announce that Ms **Alison Roach**, CSIRO Division of Entomology, Canberra, has accepted an invitation to be the Society's new Business Manager. Ms Roach will be considered as elected if there is no formal objection from Council members.

Dr **Rowan Emberson**, President of the New Zealand Entomological Society, has responded favourably to an informal suggestion that the two Entomological Societies hold a joint conference in New Zealand in 1996.

The Executive has assumed responsibility for management of the Photographic Competitions held during the Society's Annual Conferences. It has selected Mr **Paul Dangerfield**, PhD student, Dept of Crop Protection, Waite Campus, University of Adelaide, as Coordinator of that Competition as well as the Insect Illustration Competition leading up to the 1995 Conference in Tamworth.

The Executive received and accepted the resignation of Dr **DJ Rogers**, member of the Editorial Board of the Society's Journal, and thanks him for his contribution to the management of the Journal.

Paul MADGE
Hon. Secretary

THE AUSTRALIAN ENTOMOLOGICAL SOCIETY INCORPORATED

NOTICE OF 26TH ANNUAL GENERAL MEETING

The Society's 26th Annual General Meeting will be held in Tamworth, NSW on 25th September 1995. A provisional agenda list appears below. Members who wish to have additional items included in the Agenda for discussion at the 26th AGM need to provide the Secretary with details by 14 August 1995.

Provisional Agenda for 26th Annual General Meeting

1. Opening and General Announcements
2. Announcements of Proxies and Apologies
3. Deaths of Members recorded since 25th Annual General Meeting
4. Minutes of 25th Annual General Meeting (Published in *Myrmecia*, November 1994)
5. Business arising out of the Minutes
6. Executive Annual Report, including reports of Vice-President, Treasurer, Business Manager, Chief Editor and Editor of News Bulletin
7. Committee Report
   Conservation Committee
8. Competitions and Awards
   1. AES Insect Illustration Competition
   2. AES Photographic Competition
   3. AES Research Grants
   4. AES Phil Carne Prize
   5. AES Service Award
9. Business arising from the 48th Council Meeting, Adelaide
10. Announcements of Office-Bearers and Councillors for 1996
11. Report of the Organising Committee, 26th Annual General Meeting
12. Report of the Organising Committee, 27th Annual General Meeting
13. Other business (arranged with the Secretary

no later than 14 August 1995)
14. Close

CALL FOR NOMINATIONS OF OFFICE BEARERS AND COUNCILLORS

The following Offices will fall vacant at the Society's 26th Annual General Meeting on 25 September 1995. Nominations for election should be made on the form on the next page and should reach the Secretary no later than 14 August 1995.

Vacant Office	Present Incumbent
President	Prof. R.E. Jones

(Professor Rhondda Jones was elected at the Society's 25th AGM in Adelaide in 1994 and is eligible for re-election)

(Other Executive positions were filled at the Adelaide AGM for a period of two years and are therefore not vacant at this AGM)

Regional Councillors	
A.C.T.	☺ Dr P.S. Cranston
	† Dr D. Dall
New South Wales	☺ Ms L. Rodgerson
	☺ Mr J.H. Hawking
	☺ Mr S.L. Doggett
Northern Territory	☺ Mr C.G. Wilson
Queensland	† Dr H.A.C. Fay
	☺ Mr G.B. Simpson
	☺ Dr T.A. Heard
South Australia	☺ Mr W.E. Frost
	☺ Dr M.A. Keller
Tasmania	☺ Mr R. Bashford
Victoria	☺ Dr R. Coy
	† Mr A. Henderson
Western Australia	☺ Dr D.F. Cook

☺ eligible for re-appointment
† not eligible for re-appointment

Representative Councillors	
Ent. Soc. NSW	☛ Dr A.D. Clift
Ent. Soc. Qld	☛ Dr J. King
Ent. Soc. Vic.	☛ Mr P. Carwardine

☛ to be nominated by the Societies

If only one valid nomination is made for any position, that nominee will be declared elected at the AGM. If more than one nomination is received for a position, a postal ballot will be conducted.

Australian Entomological Society Inc.

NOMINATION OF OFFICER OR COUNCILLOR

I nominate .....

for election to the office of .....

.....

Name of nominator .....

Signature .....

Date .....

I second this nomination

Name of seconder .....

Signature .....

Date .....

I accept this nomination*

Signature .....

Date .....

* The nominee is requested to attach a typed statement, not exceeding 300 words, which includes the following: professional qualifications, address, institution, position held, fields of entomological interest, previous offices or appointments held in The Australian Entomological Society; any other information which may be of interest to members.

(A photocopy of this form may be used)

Australian Entomological Society Inc.

APPOINTMENT OF PROXIES

I, ...

of .....

.....

being a member of the above-named Society,

hereby appoint .....

of .....

.....

as my proxy to vote for me on my behalf at the Council Meeting, Annual or Special General Meeting, as the case may be, of the Society, to be held during 23-28 September 1995, and at any adjournment thereof.

Signed this .....

day of ..... 19 .....

Signature .....

(A photocopy of this form may be used)

Jack Walter Trench ("John") Armstrong

3 June 1908 – 8 March 1994

Jack Armstrong's father, Charles, migrated to Australia from Ireland in 1853 to settle on a grazing property at Nyngan in central New South Wales. Jack's grandfather had been the youngest son of an Irish baronet whose family seat was Gallen Priory in Ireland. The castle has now reverted to its original owners, the Catholic Church.

Born at Stanmore in Sydney, Jack was educated at The King's School, Parramatta, the oldest school in Australia. Due to health problems brought on by Sydney's humid climate, he was unable to complete his formal education there and returned to the family property at Nyngan to finish his education under the guidance of a private tutor engaged from the New South Wales Teachers' Central Registry.

The Director of the Teachers' Central Registry was the noted coleopterist H.J. Carter. Jack's tutor reported back to Carter that Jack seemed to have an avid interest in natural history and it was through this association that Jack was introduced to other entomologists of the day. This interest in natural history was to last him for the rest of his life.

In May 1934 Jack's cousin introduced him to Sheila Sutherland, who was later to become his wife. Sheila had just completed the first year of a Science degree at Sydney University.

Following the death of Charles, and later their mother, the brothers divided the original property in order for them to stay on the land. Terry inherited the half with the homestead and this retained the name of *Callubri*, whilst Jack's half of the original *Callubri* was added to a neighbouring property called *Cullingera* and took that name. Both brothers continued to acquire further adjoining land as it became available. Jack and Sheila retired to Castlecrag, Sydney in 1977, when *Cullingera* was purchased by neighbour, Robbie Hamblin, who still lives there.

The Nyngan properties *Callubri,* and later *Cullingera* became a haven for every entomologist visiting the central west of New South Wales, and they were made very welcome. Courtenay Smithers, eventually of the Australian Museum,

then visiting from South Africa, was one such entomologist who availed himself of the hospitality of the Armstrongs as was P.J. Darlington a noted American coleopterist then spending time in the Nyngan region. Jack corresponded and exchanged specimens with numerous people in such diverse places as South Africa, New Guinea, Fiji, the Pacific Islands, New Zealand, USA and South America. He also exchanged buprestid beetles, which were rarely encountered in the Nyngan region, with the Victorian amateur lepidopterist C.G.L. Gooding. In early November 1932 Jack accompanied H.J. Carter and K. McKeown of the Australian Museum on a collecting expedition to the Nandewar Ranges near Narrabri. Unfortunately extremely dry conditions prevailed and their entomological haul was poor although a new tenebrionid (*Menephilus armstrongi* Carter) was discovered under the bark of a log at the base of Mt Kaputar.

Jack Armstrong photographed in 1965.

Jack and Sheila, who had no children, were fortunate enough to travel fairly extensively overseas and it was a great joy for Jack to meet former correspondents, many of whom had exchanged beetles with him. A trip to New Zealand in 1965 lasted 6 months but Jack was forced to return early to attend to his property due to a period of extended drought in the Nyngan district. On another overseas trip he spent an extended period of time at The Natural History Museum in London. In Australia he was a frequent visitor to the Australian Museum, Sydney. Jack and Sheila attended many ANZAAS conferences enabling him to make "face to face" contacts with his correspondents some of whom later visited him at *Cullingera*. Jack was a fellow of the Royal Entomological Society London and a long term supporter of the Entomological Society of New South Wales.

Apart from his entomological interests Jack had a great love of music and he and Sheila subscribed to numerous concert series and occasionally attended performances of the Australian Opera. It is of interest that Dame Nelly Melba married Jack's father's first cousin.

Jack's chief enthusiasm was for the Dermestidae. This resulted in a series of five papers between 1941 and 1945 that constitute major milestones in the taxonomy of Australian Dermestidae. Jack was the first to provide a detailed account of the extensive native Australian *Trogoderma* fauna and the largely ignored *Anthrenocerus* fauna. In 1943 he was able to show that some of the Australian representatives of *Cryptorhopalum* actually belonged to the widespread genus *Orphinus* and *Anthrenocerus* which is endemic to the Australian region.

Another group that fascinated him was the aquatic beetle group Helodidae, now known as Scirtidae – an interest that resulted in the publication of a paper on this extremely diverse Australian group. He was able to show that many of the Australian species then described had been misplaced in exotic genera and he erected three

new genera to accommodate some of the species as well as describing 14 new species.

He also published on the Lagriidae (now regarded as a subfamily of Tenebrionidae) and the Pedilidae (now known as Anthicidae) and published keys to the genera and species then known.

Jack Armstrong provided adults for the description of a new Australian clavicorn family, the Boganiidae (comprising *Boganium* and *Hydnobioides*) by Sen Gupta and Crowson then working together in Glasgow. This family is restricted to Australia and South Africa. The family and generic names were obviously derived from "Bogan River" on the specimen labels.

Altogether he described the following 52 species and 5 new genera:

DERMESTIDAE:

Anthrenocerus arrowi Armstrong, 1949
Anthrenocerus blackburni Armstrong, 1943
Anthrenocerus chalceous Armstrong, 1943
Anthrenocerus concolorous Armstrong, 1943
Anthrenocerus condensus Armstrong, 1943
Anthrenocerus convexus Armstrong, 1943
Anthrenocerus maculosus Armstrong, 1943
Anthrenocerus niger Armstrong, 1943
Anthrenocerus signatus Armstrong, 1943
Anthrenocerus stigmacrophilus Armstrong, 1949
Anthrenocerus trimaculatus Armstrong, 1943
Myrmeanthrenus Armstrong, 1945
Myrmeanthrenus frontalis Armstrong, 1945
Neoanthrenus Armstrong, 1941
Neoanthrenus macqueeni Armstong, 1949
Neoanthrenus niveosparsa Armstrong, 1941
Neoanthrenus parallelus Armstrong, 1941
Orphinus atrous Armstrong, 1943
Orphinus occidentalis Armstrong, 1943
Psacus callubriensis Armstrong, 1945
Trogoderma boganense Armstrong, 1942
Trogoderma carteri Armstrong, 1942
Trogoderma ellipticum Armstrong, 1942
Trogoderma explanaticolle Armstrong, 1942
Trogoderma hobartense Armstrong, 1942
Trogoderma inconspicuum Armstrong, 1942
Trogoderma laevipenne Armstrong, 1942
Trogoderma leai Armstong, 1942
Trogoderma marginicolle Armstrong, 1942
Trogoderma nigrobrunneum Armstrong, 1942
Trogoderma nigronitidum Armstrong, 1945
Trogoderma parvum Armstrong, 1942
Trogoderma picinum Armstrong, 1945
Trogoderma rufipenne Armstrong, 1942
Trogoderma setulosum Armstrong, 1942
Trogoderma silvicolum Armstrong, 1949

Armstrong (right) with (from left) Ebbe Nielsen, Sheila Armstrong, Alison Roach and John Lawrence during Jack's last visit to the ANIC in 1993. [photo: John Green, CSIRO]

Trogoderma tasmanica Armstrong, 1942
Trogoderma whitei Armstrong, 1942
SCIRTIDAE:
Heterocyphon Armstrong, 1953
Heterocyphon macedonensis Armstrong, 1953
Macrocyphon spencei Armstrong, 1953
Peneveronatus Armstrong, 1953
Peneveronatus australis Armstrong, 1953
Pseudomicrocara Armstrong, 1953
Pseudomicrocara anobioides Armstrong, 1953
Pseudomicrocara anobioides Armstrong, 1953
Pseudomicrocara dixoni Armstrong, 1953
Pseudomicrocara elongata Armstrong, 1953
Pseudomicrocara elstoni Armstrong, 1953
Pseudomicrocara infuscata Armstrong, 1953
Pseudomicrocara maculiventris Armstrong, 1953
Pseudomicrocara minor Armstrong, 1953
Pseudomicrocara occidentalis Armstrong, 1953
Pseudomicrocara orientalis Armstrong, 1953
Pseudomicrocara picta Armstrong, 1953
Pseudomicrocara spencei Armstrong, 1953
Pseudomicrocara variabilis Armstrong, 1953

Most of Armstrong's specimens have been simply labelled "Bogan River" a label apparently suggested by H.J. Carter. In a privately published supplement to *The Australian Entomologist* (Sydney) the locality is defined as: "....the middle reaches of the river [Bogan] from Dandaloo to Nyngan a distance of about seventy miles, and extends up to fifteen on either side with *Callubri* as its centre. *Callubri* homestead is about three miles up river from where the Nyngan-Tottenham road crosses it, and the bulk of my collecting has been done within ten miles of that centre."

Jack Armstrong is also honoured by two patronyms – *Boganium armstrongi* Sen Gupta & Crowson 1966 and *Menephilus armstrongi* Carter 1933 (= *Bassianus colydioides* Erichson)

His beetle collection, donated to the Australian National Insect Collection in only 1994, contains many holotypes and paratypes of his species and numerous paratypes of Carter's species. The collection contains about 10,000 specimens housed in two 10-drawer steel cabinets, a 10-drawer home-made cabinet, 40 store boxes and numerous postal boxes. The collection provides a unique record of the beetle fauna of central New South Wales and documents Jack's research on dermestid beetles. Along with the collection a valuable library, mostly concerned with Coleoptera, was also donated. Notable books include Boisduval's *Voyage de découvertes de l'Astrolabe* (1835); Candèze's *Monographie des Élatérides*, volumes 1–4 (1857–1863); Castelnau's *Histoire Naturelle des Insectes Coléoptères*, 2 volumes (1840); Hope's *The Coleopterist's Manual* (1837-1840); Broun's *Manual of New Zealand Coleoptera* (1880–1893); Lacordaire's *Histoire Naturelle des Insectes. Genera des Coléoptères*, volumes 1–8 (1854–1869); Tillyard's *The Insects of Australia and New Zealand* (1926); Westwood's *An Introduction to the Modern Classification of Insects*, volumes 1 & 2 (1839–1840); the *Transactions of the Entomological Society of New South Wales*, volumes 1 & 2; and an exceptionally fine 39 volume run of the serial *Comphanhia di diomentes de Angola – Etudos diversica* (with numerous Monographs on the Angolan fauna).

Publications by J.W.T. Armstrong:

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Armstrong, J.W.T., 1942. On Australian Dermestidae. Part II. The genus *Trogoderma* Berthold. *Proc. Linn. Soc. N.S.W.* **67**: 321–330.

Armstrong, J.W.T., 1943. On Australian Dermestidae. Part III. The genera *Anthrenocerus* Arrow and *Orphinus* Motsch.; also a note on the genus *Cryptorhopalum* Guer. *Proc. Linn. Soc. N.S.W.* **68**: 57–63.

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Armstrong." *The Australian Entomologist* **1** (Supplement 1): i–iv.
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Andrew A. CALDER
CSIRO Entomology
CANBERRA

RESEARCH REPORT

HABITAT ASSOCIATIONS OF BANANA-ATTRACTED DROSOPHILIDS IN THE CAIRNS REGION

Introduction

In Australia, the drosophilid group is one of the best known groups of insects, taxonomically. However, the field ecology and genetics of indigenous species is hardly known, despite their being ideal insects for testing and developing ecological, and ecological genetic, theory.

North Queensland has the highest drosophilid diversity in Australia, with 192 of the 279 known species occurring there (McEvey 1993). Banana-baiting offers an effective way to sample a subset of these drosophilid species. To date, all banana baiting for drosophilids in north Queensland has been conducted in rainforests or areas of human habitation, a consequence of workers assuming that the drosophilids attracted to fermenting baits are solely rainforest or anthropocentric species. Such a picture of adult habitat-associations and distributions have major ramifications for designing and interpreting any further ecological or ecological-genetical work. We therefore tested the idea that banana-attracted drosophilids are in fact largely restricted to rainforest and domestic habitats by carrying out replicated banana trapping (over a period of 6 days) in a representative cross-section of vegetation types in the Cairns Region.

A more complete presentation and analysis of this data will be published at a later date.

Rieks Van Klinken emptying a drosophilid trap in woodlands near Mareeba, Qld in July 1993.

Method

Rotting banana traps were placed at 16 sites in the Cairns region. Three traps were placed at each site and were emptied after 3 days and 6 days, in July 1993 (winter dry season).

Sites were selected to represent a cross-section of all vegetation types present in the region, as described by Tracey (1982). Seven sites were on the coastal lowlands and nine on the Atherton tablelands. Vegetation types include four "domestic" sites (three urban and a farmyard site), three woodland sites (predominantly *Eucalyptus* species with a grass understorey), a wet sclerophyll site (*E. grandis* forests with a rainforestunderstorey), a coastal dune-system, *Melaleuca* and mangrove swamps, and a range of closed forests types.

Results & Discussion

Almost 19,000 drosophilids from over 40 species were

TABLE 1: Distributions of the common species and their habitat associations in decreasing order of "attractiveness". (* indicates cosmopolitan species)

Species	Altitudinal Distribution	Habitat Association
Drosophila (Drosophila)		
D. sulfurigaster	coastal	closed forests; swamp; domestic
D. rubida	coastal	closed forest; domestic
* *D. immigrans*	tablelands	domestic; closed forests
* *D. busckii*	tablelands	domestic; woodlands
* *D. hydei*	both	swamp; sand-dune system; domestic
Drosophila (Sophophora)		
D. pseudoananassae	coastal	swamp; domestic; closed forest
D. ironensis & **ananassae*	coastal	swamp; closed forest; domestic
D. bipectinata	coastal	domestic; swamp; closed forests
D. pseudotakahashii	tablelands	wet sclerophyll; closed forest; domestic
* *D. simulans*	tablelands	domestic; woodlands
* *D. melanogaster*	coastal	domestic; woodlands; dune system
D. serrata &/or *birchii*	tablelands	closed forest; woodland; domestic
Scaptodrosophila		
S. novoguinensis	coastal	closed forest; domestic
S. sp. #1	coastal	swamp; closed forest
S. cancellata	coastal	closed forest; woodland; domestic
S. sp. #2	both	closed forest; swamp
S. lativittata	tablelands	woodland; domestic; wet sclerophyll
S. specensis	tablelands	closed forest
Zaprionus argentostriatus	coastal	swamp; domestic; woodlands

collected from the 16 sites. The most striking result is the ubiquity of drosophilids in the Cairns region. They are by no means restricted to closed forests and urban habitats. Indeed, species diversities are lowest in the closed forests of the tablelands. Of the natural habitats, swamps have both the highest abundance of drosophilids and the greatest diversity of species. Woodlands and dune systems have abundances and diversities comparable to those in a number of closed forest sites.

The common species differ in habitat associations (Table 1). Twelve of the species were most abundant in the habitats traditionally considered to be drosophilid: closed forests and domestic sites. However, many of these species were also abundant in other vegetation types, and seven species were most abundant in swamps (5), woodland (*S. lativittata*) and wet sclerophyll (*D. pseudotakahashii*).

Six of the eight cosmopolitan species were present in the collections (Table 1). Although predominantly in domestic sites, all were present in significant numbers outside of domestic habitats, but they were generally rare in closed forests.

Species distributions also differ according to altitude. Of the 19 common species, eight are mainly, or entirely, restricted to coastal sites and six to the tablelands (Table 1). The tableland species are all abundant in southern Qld, and most extend as far south as, and are common in and around, Melbourne. The coastal species, with the exception of *Sc. cancellata*, are rare (*D. sulfurigaster*, *D. ananassae*, *D. bipectinata*) or absent in southern Queensland.

The presence of large numbers of drosophilids at banana baits placed well away from rainforests

and domestic habitats is contrary to expectation. They may have been trapped while dispersing across "hostile" habitats, or they may represent locally breeding populations. If they are dispersing, drosophilids must be leaving apparently suitable habitats in vast numbers, and covering large distances. If they are breeding locally, they must be utilising larval hosts other than fleshy fruit or fungi, which are generally considered to be the major breeding sites of most banana-attracted drosophilids. Both of the above alternatives may be true, depending on the drosophilid species and habitat type. In any case, drosophilids are surviving in habitats which would previously have been considered too harsh for many of these species (e.g. the dry woodlands of the Tablelands).

The *coracina* group of *Scaptodrosophila* currently has 10 described species, nine of which are endemic to Australia. Five of these have now been recorded from north Queensland. The recorded range of two of them, *S. lativittata* and *S. novamaculosa*, have been significantly extended (from southern Queensland). Both are predominantly woodland and domestic species in southern Queensland. A sixth, undescribed species (*S.* sp. #2), has also been collected and is being dealt with taxonomically by Dr. S.F. McEvey (Australian Museum, Sydney).

In conclusion, drosophilids, as a group, are clearly ubiquitous throughout the Cairns Region. Species tend to be largely restricted to either the coastal plains or the Tablelands, within which they may be associated with a specific range of habitat types. Species may occur in large numbers and in relatively high diversities in all habitat types from dry eucalypt woodlands to sand-dune systems and swamps to the whole range of available closed-forest types. This picture contrasts strongly with that provided by Parsons (1982), in which drosophilid populations are considered to be focussed around rainforest habitats.

Acknowledgments

We thank the Australian Entomological Society who funded the project in part, and Michael Ross for assistance in the field.

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Rieks VAN KLINKEN
& Gimme H. WALTER
Department of Entomology,
The University of Queensland
Qld, 4072

LETTERS

[*The following letter was sent to the Society lobbying for support for the Australian Biology Olympiads. The Executive provides the letter for information so that any member who wishes to respond to the request individually may do so*]

Dear Sir or Madam,

Australian Science Olympiads

The Biology Olympiad Bursaries fund was established by the Victorian Cell Biology Society in 1994. Australian Biological Societies, Tertiary Institutions and Companies involved in scientific areas were able to provide 4 bursaries, each worth $500 to the four team members competing in the International Science Olympiads in 1994. Donations will be sought annually to build up the fund for future years after the problem of government funding is resolved.

The Australian team earned three bronze medals in a very high standard competition. Australian team members Amy Warren, from Brisbane, along with Katie Bergamaschi and Lachlan Rose, both from Sydney, each won bronze medals after completing the theoretical and practical examinations lasting three and a half hours each. Stephen Rose, from Sydney, just missed out by a very small margin from receiving a medal. The 1994 Australian team achieved comparable raw score marks to the unpredented results of the 1993 team.

Dr John Dearn, the Australian Deputy Leader, said "Australia will need to at least maintain the current level of commitment to the selection and training programs to remain competitive as every nation in the competition continues to improve the preparation of their national representatives."

Lobby for Science

Society members should lobby the Prime Minister and the Minister for Science so that the Federal Government continues to provide support

for training students for the Science Olympiads. The Government invested $7 million in the recent Commonwealth Games and $350,000 for the 1994 Science Olympiads! Write a letter today to try and redress this ridiculous imbalance.

The Hon. Paul Keating
Prime Minister
Parliament House
Canberra, ACT 2600
FAX (06) 273 4100

The Hon. Peter Cook
Minister for Industry, Science & Technology
Minister Assisting the Prime Minister for Science
The Senate
Parliament House
Canberra ACT 2600
FAX (06) 277 3387

The Hon. Simon Crean
Minister for Employment, Education & Training
Parliament House
Canberra ACT 2600
FAX (06) 273 4117

The National Register of Biologists is now established, registering all biologists who wish to help by providing advice or coaching the team members.

National Register of Biologists

If you are able to help, please send the details listed below to Dr Lynne Selwood, President, Victorian Cell Biology Society, Zoology Dept, La Trobe University, Bundoora Vic 3083.
Tel (03) 479 2239, FAX (03) 479 1551,
Email zools@zoom.latrobe.edu.au

We need to know your Name, Address, Telephone, Fax, Email and Area of Expertise.

(Dr) Lyn SELWOOD
President
Victorian Cell Biology Society
School of Zoology
La Trobe University
Bundoora Vic 3083

CSIRO MEDAL PRESENTED TO ZIMMIE

*On Wednesday 22nd February **Dr Elwood C. Zimmerman** was presented with a special CSIRO Medal to acknowledge his enormous contribution to entomological science in Australia. Following is the text of the speech by **Dr John Stocker**, Chief Executive of CSIRO, in presenting the medal to Zimmie. Following Dr Stocker's speech is the text of Zimmie's response - something which I hope all readers will take the time to read. - Ed.*

THE AWARD

Ladies and Gentlemen,

It is a real pleasure to be back once again at Black Mountain for this very special occasion.

It's a privilege for me to have had, as a colleague, one of the world's most highly esteemed entomologists; and for me to be able to present him with this special CSIRO medal.

We are honouring Dr Elwood Zimmerman this year to coincide with the publication of Volume 4 of his masterpiece monograph, Australian Weevils, which will take Zimmie past his ten thousanth page of scientific publication.

To capture the essence of Zimmie's tireless dedication to his science, I'd like to quote a few lines from Zimmie's Preface:

> "...one of the greatest rewards of being a systematic entomologist is that when one gets old with at least some of the vital senses intact, one need never want for something new and stimulating to do, and one can look forward in eager anticipation to what exciting, previously unknown fact or organism may come to view each day. How good it is to want to rise early to greet tomorrow's sunrise. How fortunate it is for one to be able to do so."

Little wonder that Zimmie is an inspiration to us all.

Many in the community might be a bit bemused by a fascination with weevils. But like all areas of science, if people take the time to look into matters, they too are soon hooked.

The numbers of weevils are staggering; Zimmie has listed and described about four thousand species of Australian weevils. Yet he estimates that this is probably less than half of the total of Australian species.

Weevils are big numbers, big news, even big business. Certainly weevils have an intimate relationship with humankind. They eat the same foods we do, they live happily amongst us, and they have an enormous economic impact.

There are the bad guys: rice weevils, wheat weevils, cotton boll weevils, fruit eaters, and more; but there are the good guys too, like the famous *Cyrtobagous salviniae* imported to combat the menace of the exotic water weed *Salvinia*; or the less famous but still essential weevils who help to break down dead plant matter, and who assist plants in their pollination.

Australia's weevils found their match in Zimmie. Where did it all begin?

Zimmie himself says that he made a conscious decision to study insects even before he left school, and started specialising in weevils at the University of California.

Zimmie made his way across the Pacific to Australia in a series of hops. His first scientific appointment was as Field Entomologist at the Bernice P. Bishop Museum in Honolulu in 1934. This resulted in the nine volume *Insects of Hawaii*. It also gave Zimmie a wonderful background of experiences in remote places: scientific field trips the way they are not any more: trading tobacco and needles and buttons with native guides to take him into the mountains....and ultimately to Australia.

Zimmie joined CSIRO in 1973. He became a Senior Research Fellow with the Division of Entomology and Curator of Weevils for the Australian National Insect Collection.

Zimmie retired - officially - in 1982. In practice, that meant that he became an Honorary Research Fellow and continued his work with the Division.

As well as this, Zimmie and his wife Hannah have been extremely generous, not just of time and energy, but also of money: very large sums of money to enable the publication of *Australian Weevils* as well as in support of research and scholarly societies.

This is something for which CSIRO is deeply grateful. It is a service to Science and to the nation.

Of course, no-one works in isolation, especially scientists who work in a network of collaboration

John Stocker presents Zimmie with the Special CSIRO Medal [photo: John Green, CSIRO]

and cooperation and open competition.

Today's medal is for Zimmie: but it is a great pleasure for me to be able to recognise one of his collaborators who is with us here today. Zimmie and CSIRO must have been the most demanding of clients, but Richard Thompson, of the Natural History Museum in London, deserves special mention for his uncomplaining unassuming and conscientious support for Zimmie's work: thousands of letters, the loan of specimens and complete collections of specimens; scientific cooperation at its most selfless.

Before I present Zimmie with this special CSIRO Medal, I'd like to return to the essence of this man's dedication to science and profound humanity - a man who, as I quoted at the outset, finds it "good...to want to rise early and greet tomorrow's sunrise." To do this I'd like to use several quotes.

Firstly, I'll quote from the review of *Australian Weevils* by Roy Crowson, Zimmie's fellow entomologist and feared critic.

> "Dr Zimmerman never forgets that the study of Curculionoidea is a human activity; he writes in the manner of a cultured human being, not a computerised committee, with many personal touches, literary quotations and figures of speech; such qualities are too rarely seen in the major works of scientific specialists of any variety, and make for unusual pleasure in reading this one."

High praise indeed, and richly deserved. Secondly, let me give you an example of Zimmie's writing that moved me as it must have moved Crowson.

> "Now, as I write this from my home *Ways End*, high above Tura Beach, New South Wales, I look over the ceaseless waves of the Tasman Sea to apparent infinity, dream of the many islands over the horizon that I have explored and from this new view, the sea appears as a cloak concealing from sight and understanding, a vast world of

After the Presentation (from L to R): Max Whitten, John Stocker, Elwood Zimmerman, Ebbe Nielsen [Photo: John Green, CSIRO]

wonderful, to me unknown, organisms and presenting me with a situation not unlike the view of the classification of Australian weevils that confronted me when I began this monograph: the cloak of confusion that I have now partially drawn aside."

Finally, I shall use a quote with which Zimmie ends his Preface - an anonymous quote that sums up our esteem for him as a scientist, writer and colleague:

"Birth and death are essentially similar for all men. It is what men accomplish between birth and death that distinguishes them."

It is my pleasure to present this special CSIRO medal to Dr Elwood Zimmerman, for his most distinguished work in the service of Science, Australia and CSIRO.

Dr John STOCKER
Chief Executive
CSIRO

ZIMMIE'S REPLY

I am deeply honoured by this presentation, and I want all those who have helped me along the way to understand that the award is not for me alone, but is for the entire team from the workshops, the store, records, typists, librarians, artists, SEMs, photographers, scientific colleagues, CSIRO Publications, printers, administrative staff up to the Chief of the Division and thence to Headquarters. It is astonishing how many persons have been involved in the preparation and publishing of my books. We even have to thank my old friend Sam Clemens, better known as Mark Twain, for his assistance. For many years, one of my prized possessions was an autographed portrait of that remarkable author. To help raise funds to publish my books, I sent the portrait to auction in London where it fetched some thousands of dollars which then disappeared into Finance Manager Mark Hardwick's black hole.

I want especially to acknowledge 53 years of the most loyal support from Hannah. I want to acknowledge help from Richard Thompson, who is here from England today, who, for more than 20 years, supplied material and information from the British Museum that enabled the monograph to be prepared. And to Ebbe Nielsen is due special thanks for his able guidance and administrative ability. -----I thank you all.

Recently, I had a conversation with a non-scientist professional man who asked why, at my age, I was working so hard studying insects when I should be enjoying life in retirement. "What's so special about weevils?", he asked. Enjoying myself doing what? Wasting my life over at the club lapping up beer, playing cards and the pokies? What's so special about weevils? To me, his attitude was like waving a red cape at a bull. Some people appear partly to die while still walking about.

I told him about CSIRO and the *Salvinia* waterweed problem and how the introduction and dispersal of a Brazilian weevil so small that it can sit on the head of a pin has resulted in hundreds of millions of dollars of benefit to Australia, Indonesia, the Orient and Africa. The mention of dollars immediately attracted his attention. Then I told him about the oilpalm industry in Malaya where it had been necessary, at great expense, to pollinate the trees by hand. That, in 1981, a small, insignificant palm flower weevil (*Elaeidobius kamerunicus*), previously known only to a few entomologists, was brought from its native home in West Africa and released in the palm groves in Malaya where it multiplied and dispersed rapidly. It pollinated the palm flowers and enabled fruit to set, thus eliminating the need for laborious hand-pollination. This soon increased production of palm oil about 20% and saved growers about $150 million a year.

I told him about the prickly pear cactus that had rendered about 60 million acres of Queensland agriculturally worthless and had been spreading at the alarming rate of about a million acres a year. Then I told him about the remarkably successful introduction to Queensland of the South American *Cactoblastis* moth whose caterpillars ate the cactus and eliminated the problem within a few years.

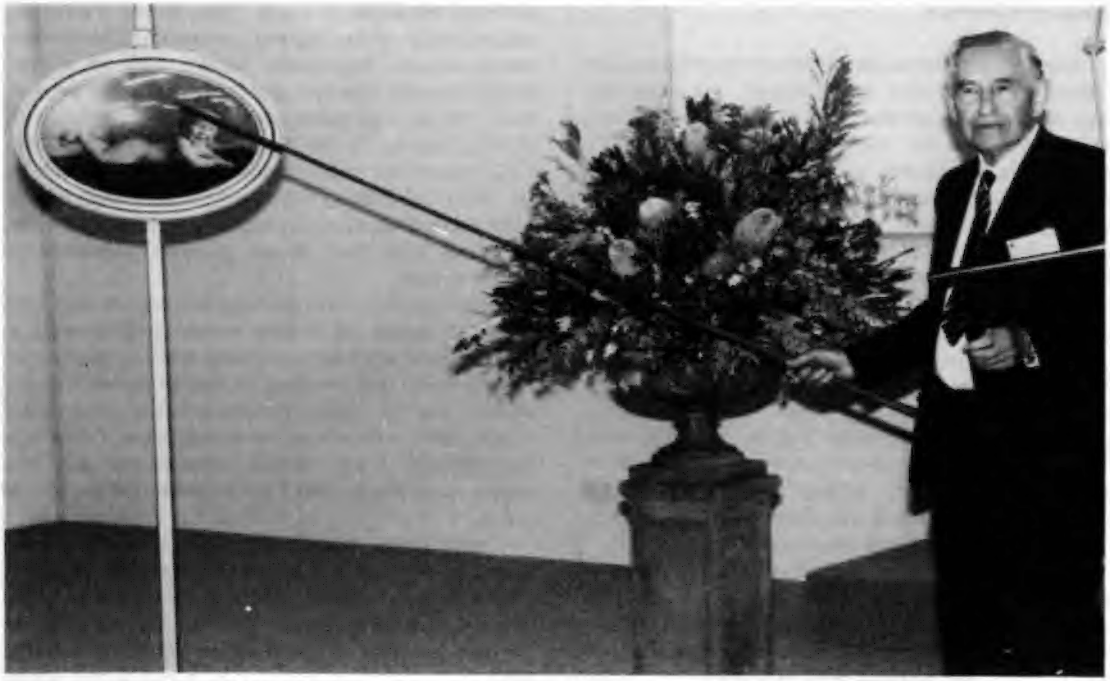
I asked him if he had ever had his stomach turned by the sight of a writhing mass of maggots on a fly-blown sheep. I asked him if he noticed how few bushflies there were on the golf course this year and did he know about CSIRO and dung beetles. I told him about the screw-worm time-bomb set to go off at most any time in northern

Australia with the consequent catastrophe to the livestock industry. My listener had little or no knowledge of these subjects, and he had no understanding or appreciation of entomological research. We scientists appear unable to get our messages of success and our values across the intellectual barriers.

My friend, Ed Wilson, the noted Harvard biologist, father of sociobiology, coiner of the word "biophilia" and co-proposer of the now familiar word "biodiversity", has said that "scientists are divided into two categories: those who do science in order to become a success in life, and those who become a success in life in order to do science. It is the latter who stay active in research for a lifetime." Hear! Hear! We are both basically systematic biologists, he on ants and I on weevils and other insects, who, like Charles Darwin, Ernst Mayr, Julian Huxley, George Gaylord Simpson, Dobzhansky, David Lack and many, many others, received their basic stimulation from what is now called the study of biodiversity. We used to be called naturalists. We all began our studies as child-naturalists, and most of us received our greatest stimulation from our studies of life on islands. We are dedicated workers because of our insatiable desire to learn more of the world around us, especially that which is left in our forests where there is the greatest diversity of terrestrial life.

As a taxonomist and systematic entomologist, I feel especially fortunate to have chosen my life's work at a very early age. I often have difficulty convincing some observers that I have studied weevils for a very long time. However, I have retained photographic proof of my first capture of a weevil about 82 years ago. [*See photo below*]

There are few fields of human endeavour that enable a person to rise in the morning knowing that it may be possible in the new day to observe some new organism or structure or function or fact not observed by anyone before. We are always hunting, and our lives are filled with new discoveries. Our work urges us on and on to find more and more new examples of the marvels of nature, be they morphological, anatomical, physiological, behavioural or evolutionary. They



Zimmie exhibits photographic evidence of his first weevil, collected 82 years ago
[Photo: John Green, CSIRO]

are the products of 3 billion years of organic evolution. And, as my old friend Ernst Mayr has said, "a philosophy of science that would include the study of the living world must emphasise this fact along with many other phenomena and processes that are either non-existent or unimportant in inanimate matter." (Mayr is now in his nineties, with a personal bibliography approaching 700 titles, but he continues, as a master craftsman, to write stimulating, thought-provoking books and articles). It is important that administrators be made to understand the differences between the physical and natural sciences.

Each day we may be confronted by new problems, the solving of which is often long, tedious and difficult, but they always stimulate the intellect. Why is it that numerous groups of Australian insects are more closely allied to those of South America than they are to those of Indonesia, the Orient or Africa? Why are so many groups of Australian animals so different from those of nearby New Zealand? Why does New Caledonia have such remarkably distinct plants and animals? How does an insect produce chemicals to produce light that can be flashed on and off at will? How does a female moth produce a stimulating perfume that can be detected by a male more than a kilometre away, and what kind of sense organs has the male to enable him to detect a wafted flow of a few molecules? How does a beetle produce chemicals that, when mixed and shot into the air, explode with a bang that frightens attackers? What are the processes involved that enable insects and spiders to produce and eject chemicals that immediately harden on contact with the air to produce prodigious amounts of silk? Man has only recently mastered the art. Insects were using jet propulsion several hundred million years before man appeared. How does a bee tell its mates that it has found a gum tree flowing nectar on the other side of a hill?

Insects have more senses than mammals, but, fortunately, they have less sense. If it were otherwise they would have long since overwhelmed us. It is, however, the insects that are probably destined to inherit the Earth long after mammals have forever disappeared. When eternal ice covers most of the Earth and most life is forever lost, sitting on an exposed equatorial, lichen-covered rock, warming itself in the feeble rays of a dying sun, there may sit one of the last of Earth's terrestrial multi-celled animals - a melancholy bug.

I work with small denizens of fields and forests whose multiform shapes are more remarkable than the most astonishing and fearsome of dinosaurs. Their forms, anatomies, physiologies, habits and abilities stagger the imagination. If only some of them were the size of cows, we would have no difficulty in attracting adequate financial support for what some now believe are irrelevant academic activities. It should be understood that a proper understanding of life depends upon knowledge of all its aspects and components.

In spite of their importance in nature, we are only in the early stages of surveying our now greatly endangered native insect fauna. All about us there await discovery multitudes of biological miracles yet unseen and unstudied that for generations to come may, if they are conserved, remain to stimulate and reward those who are prepared to search, to see, to study and describe for the edification of mankind. But time is rapidly running out.

Many of the animals I study are becoming more and more scarce or appear to be extinct and I am worried about the implications. The danger signs are here.

The woodcutters know nothing of what they are destroying. They do not care as long as there is a quick dollar to be made. They say that they have a greater right to destroy than others have to protect our heritage. And politicians are mostly biologically ignorant, appear blind to what is happening and incapable of understanding how or why the present situation can and should be changed. They have no concept of the fact that perhaps 90% of the organisms that occur on each acre of primary forest, and essential to the balance of nature, remain unknown to science. Timber for woodchipping should, like wheat or cotton or sugarcane, be raised and harvested from plantations planted for the purpose. It should be recognised that to destroy primeval forests, the products of millions of years of evolution, is a crime against humanity. The native forests belong to all of our people; they should not be subjects for destructive exploitation by any group. Extinction is forever. Ed Wilson has said, "Humanity is the product of biological evolution and the diversity of life is the cradle and greatest natural heritage of the human species."

We are as disease organisms who have made the world sick - very, very sick, and when we make it sick enough, the fever will destroy us. We scientists have for generations been sounding the alarms, but to ears made deaf by ignorance and religious dogma, and if those mortal sins are not soon replaced by scientific truth and guidance, we cannot survive. From what I have seen in my lifetime, it is my considered opinion that we have probably already reached the point of no return. We are now a very endangered species. Any reasoning person should be able to see the handwriting on the wall, but those who can see are few and are overwhelmed by those who are blind. Those whom the gods wish to destroy are first deprived of their reason.

I like Jane Taylor's lines:

Though man a thinking being is defined,
few use the grand prerogative of mind.
How few think justly of the thinking few!
How many never think who think they do!

There are those who wish to open the floodgates to immigration and add the equivalent of a new Canberra to Australia each year, and mostly from populations who have already destroyed their own lands. This is absolute madness. Have they no knowledge of exponential growth? Can they not be made to understand that Australians also can be reduced to poverty and hunger? Almost daily we see before us on television examples of the horrors brought by overpopulation in other countries where there are too many mouths on the degraded lands. Why cannot our people understand that we, at present in plenty, may, sooner than we think, face the same situations?

We are reminded each day that we are already short of water. Where will more water come from? Haul ice from Antarctica? Bring the Fly River water from New Guinea? Distil it from the sea? Think again! Where would the enormous amounts of fuel come from and at what cost to accomplish such impossible dreams? Will the present drought-made necessity for us to import grain be heeded? If we cannot feed ourselves, who will feed us in future? Can we ever make people understand that there is a limit to growth? **There is a limit to growth!**

How can we make our politicians think? How can we make our people act by scientific reason instead of by blind emotion?

It is the little things that underpin all else in life, and it is the little animals and plants that I study that are telling me that we have already passed into the danger zone.

I said that I am a naturalist. That old-fashioned word is now sometimes misunderstood. When searching for a new homesite, I consulted a real-estate agent and told him that I was a naturalist looking for a block of bush near the sea. He replied: "I am sorry, I cannot help you. We don't want any of you nudists around here."

I note that there are representatives of the media here, and that reminds me of an event that occurred a few days after Dr Stocker launched the first 5 volumes of my monograph last year. In an interview with the ABC, I explained that I had so much unfinished work that I could not complete it if I lived to be more than 100. A gentleman called me from Sydney stating that he had heard the broadcast and that he had just the thing to assist me in my worthy aim for a long life. He said that he had a special elixir that he obtained from an area in southern Russia where most people lived to be well over 100, and he would send me a sample free of cost because of the importance of my work. Recently, when reading an article on longevity in *National Geographic*, I noted the results of interviews with centenarians in the area from which the Sydney man obtained his tea. One active old chap of 108 boasted that he liked his wine and the ladies but that he had never read a book and had no worries. I have read hundreds of books, and my life is full of worries. Have I done something wrong? I don't think so. How empty life is without books; it is life without windows.

Books are my loyal servants, always here to aid and stimulate, and with my library at my side, I am never lonely, never without friends. The writing of books excites and pleases me. I want the books I write not only to serve as basic guides and aids and archives of fundamental information, I want them to reveal the wonders of nature, to stimulate thinking and asking of questions, and I want them to delight the eye with illustrations that convey messages in the international language. Basic scientific monographs are exceeding difficult to prepare and discouragingly difficult to finance. These are reasons why they are rarely produced.

As all scientists should, I feel deeply indebted and obligated by my profession, and partly to express my gratitude as well as in recognition of the support given to me by the institution and my

colleagues, and in a most sincere desire to have my sphere of research continued from where I must leave it for the recycling of my molecules, Hannah and I are contributing to the endowment of a Chair of Pacific Weevil Research to be permanently associated with the Australian National Insect Collection. Now we must find a worthy scholar to fill that position.

I want to close with a few lines written from *Waysend*, our home on the South Coast.

As I look out over the ceaseless waves of the Tasman Sea to apparent infinity and dream of the many islands over the horizon that I have explored, the sea appears as a cloak concealing from sight and understanding a vast world of wonderful, to me unknown, organisms and presenting to me a situation not unlike the view of the classification of the Australian weevils that confronted me when I began my monograph: the cloak of confusion that I have now partly drawn aside. I am reminded of Milton's lines that I may subconsciously have applied to the seeming obfuscated chaos of Australian weevil classification:

> A dark illimitable ocean, without bound
> without dimension, where length, breadth and height
> and time, and place are lost: where eldest night and chaos, ancestors of nature, hold eternal anarchy...

You have honoured me for an accomplishment that you consider is a credit to the Division, but it is important that a scientist should consider that the greatest reward for a job well done should be the opportunity to continue his research.

Please help me to do more.

Elwood C. ZIMMERMAN
Australian National Insect Collection
CSIRO Division of Entomology
Canberra.

REGIONAL NEWS

AUSTRALIAN CAPITAL TERRITORY

ANIC/ANU

With apologies to the recent Adelaidian visitor to ANIC, who perceptively described my last *Myrmecia* contribution as boring, here is another of similar ilk. The reason is the same - absence from Canberra for much of the last reporting period, and when present, most colleagues were incommunicado using the vacation period to do some science whilst the rest were at the coast. So again, most of the news for the period derives from our internal newsletter. This informed us of **Ebbe Nielsen's** November visit to London to address the Natural History Museum on "The role of Natural History Museums in the 21st Century". Just a little earlier in the month your correspondent gave a partisan view on a similar topic to the Museums Association in Fremantle concerning "Natural History - what's in a Museum ?". Unlike Ebbe's, my presentation didn't result in a job offer from anyone. It is just as well that Internet is free, given the flurry of emails that travelled the ether over the Christmas period. Anyway, for anyone that hasn't heard, perhaps someone on extended field work in the Kimberley, Ebbe declined a prestigious overseas invitation. This news is welcomed, not least by **Robert Hoare**, a Classics student with a recent first class honours in biology from Exeter University (UK), who gained an ANU scholarship to study Australian Nepticulidae under the supervision of **Penny Gullan** and Ebbe. The Lepidopterists in Canberra have been enhanced also by the arrival of **Marcus Matthews**, most recently from Belize where he constructed a field station on behalf of the Natural History Museum and the Darwin initiative. Marcus tells me that he was conceived in Canberra but missed out dual nationality as his parents gave up the academic life at ANU and returned to Britain. Now making his second cognisant visit to Australia, he is to spend three years working on heliothine systematics. This will involve much travel, so wherever you work, expect to see Marcus soon.

Brendan McKie has interrupted his studies at ANU to assist **John Trueman** in the preparation of the interactive identification guide to aquatic macroinvertebrates, and is now conversant with molluscan family-level taxonomic idiosyncrasies. The utility of this information when he returns to University to start honours in July is not immediately apparent. This somewhat ad-hoc unit has regained **Eva Bugledich**, back from maternity leave to complete the Nematocera Catalogue, and **Wendy Lee**, after her global travels, assisting with other matters Dipterological.

Those of us that spend our spare time sniffing Euparal and judiciously balancing the caffeine-

alcohol intake in order to manipulate microscopic bugs under coverslips were pleased to have a fellow afficionado visiting. **Laurence Mound**, my erstwhile boss in London (but no grudges held), spent two months grappling with our thrips and aspiring thripologists. He is to return in autumn this year on a McMaster fellowship, during which time he will travel widely following Western flower thrips (and things mistaken for the pest) and assist in a thrips workshop at Gosford. Laurence's particular interests in the field in Australia are gall-forming thrips and he would like any such preserved and sent to ANIC to await his return.

Colleague **Richard Thompson** is making good headway with curation and research on **Elwood Zimmermann**'s pride-and-joy, the weevil collection. Another visitor to ANIC was **Mikhail Kozlov**, from the Laboratory of Ecological Zoology at Turku University (Finland) who studied primitive Lepidoptera. The visitor from the Waite that berated this correspondent for excess of decorum and shortage of libel in recent *Myrmecia* contributions, was **Andy Austin** who came to sort and borrow many ANIC parasitic Hymenoptera for his international coterie of students. As on several previous visits, Andy's arrival was timed to coincide with a Coopers and Cladists discussion, this time a heretical paper suggesting abandonment of the Linnaean system (you'll be relieved that we agreed not to). For anyone contemplating visiting Canberra to coincide with this now august and entomologist-dominated institution (eighth year..), meetings are alternate Thursdays, in the non-pay week for Canberra public service, at 5-5.30 at University House. The informality (shambles actually) of the group is diminishing as news of the next paper to be discussed is circulated electronically in advance by Penny.Gullan@anu.edu.au - the paper for discussion of course still is photocopied with top, tail or margin amputated, and with alternate pages up-side-down, missing or miscollated. Molecular systematists **Bill Ballard** and **Nora Galway** have thrown some ideas into the bullring for next discussion - brave people.

Penny Greenslade, taking a break from criticising invertebrate-free E.I.S., is in Brisbane working with **Geoff Monteith**, but didn't tell me what she is doing, sorry folks.

Other travellers by the time this appears in print will be **Tom Weir**, **Dave Rentz**, **Matt Colloff** and a recruit, to set up an invertebrate survey of Calperum/Bookmark Biosphere mallee (nr Renmark) on an ANPWS contract. Tom will have time to wash the dust from his socks before heading off with **Pete Cranston** to the MacDonnells and Finke with the Horn Centenary Australian Invertebrate Expedition in early March - both appreciate the January rainfall to encourage their striders and midges. Convoluted logistics might lead to an exchange with **Dave Rentz**, a participant in the more southern leg in the second half of the month.

At Botany and Zoology, ANU, Penny's two new honours students have started their project work. **Kendi Davies** is extending her honours research for her PhD on "Invertebrates in forest fragments: which traits make species extinction prone?". She will be working with the Wog Wog fragmentation experiment under the co-supervision of **Chris Margules** of CSIRO Wildlife and Ecology. **Brett Melbourne** has started field work in the Clyde River catchment for his study of "The structure of stream-stone communities: scale, pattern and process", with the cosupervision of **Sam Lake** of Monash University. At least after the Christmas rains there are communities to study in the streams.

An emailed request for information for inclusion has provoked not a word, so with apologies for spending the best part of the period entomologising in the lovely parts of south-west Western Australia unravaged by phylloxera, woodchipping and salination, I'll sign off.

Pete CRANSTON
Regional Councillor

NEW SOUTH WALES

Biological & Chemical Research Institute, Rydalmere

Grant Herron has had his PhD approved by the University of Sydney following examination of his thesis entitled "Clofentezine-hexathiozox resistance in twospotted mite, *Tetranychus urticae* Koch (Acari: Tetranychidae) in Australia".

Additions to the staff (all temporary) include **Lilian Blanco** and **Graeme Gullick**, working with **Grant Herron** and **Rebekah Hoile**, working in the Taxonomy Unit as a Public Sector Trainee for 12 months.

John Macdonald has returned to BCRI to fill the vacant mite taxonomist position and, while taking up the reins of the mite section, will also be

finalising some of his projects from the North Coast. **Danuta Knihinicki** has enrolled in her M.Sc. at Macquarie University and will be working on mites associated with *Melaleuca*.

To offset this addition of a person to BCRI, **Andrew Kotze** has resigned from the Blowfly Unit in order to take up a position at CSIRO, Division of Animal Health at Prospect in Sydney's West.

Graham Goodyer has been his usual busy self up to his ears in mole crickets, cockchafers, African black beetles and pests of Adzuki beans. **Graeme Baker**, in addition to formally opening his kitchen extensions, has had his hands full with wingless grasshopper outbreaks on the South West Slopes. **Gary Levot** scored another maggot sample derived from a dead humanoid from near Maitland during February. **Murray Fletcher, Steve Goodwin** and other departmental persons interested in grapevines conducted a survey of the vineyard areas of the Sydney district looking for grape phylloxera and found it in the same places as it had been recorded in the last survey in 1979. One table grape vineyard has had this pest on own-rooted vines for at least 16 years.

Recent visitors to the Taxonomy Unit have included **David Yeates**, from the University of Queensland (Bombyliidae), **Andy Austin** from the Waite, University of Adelaide (Scelionidae) and **Marcus Matthews** from the ANIC, Canberra (Heliothinae).

Department of Medical Entomology
University of Sydney at Westmead Hospital

Recently, there have been a few staff changes at Medical Entomology. **Peter Wells**, just after submitting his Masters thesis, has left and taken up a position at the Environment Protection Authority to help clean up the world - Good Luck Peter! **Cameron Webb** has started a PhD project with **Richard Russell** investigating the ecology of saltmarsh mosquitoes in the Homebush Bay area of Sydney. Richard also has money for another student to work in the freshwater wetlands and is looking for applicants - anyone interested? Please contact on 02 633 7279 or fax 02 633 5314.

Richard and **Reiny Brust** have continued their forays into the alpine areas of Kosciusko National Park in the search for snow-melt mosquitoes and Reiny is otherwise investigating geographically separated populations of the littoral rock pool mosquito *Aedes australis*.

Stephen Doggett, John Clancy and **John Haniotis** have been working hard on the New South Wales Arbovirus Surveillance & Mosquito Monitoring Program. Numbers of mosquitoes this year have been well down on average due to the drought conditions across much of NSW. However, with the recent rains in January and some very high coastal tides, mosquito numbers have picked up markedly, with many councils receiving numerous complaints. Stephen has also picked up the task of continuing some of the vector competence work that **Peter Wells** has been undertaking.

Merilyn Geary is continuing her weekly monitoring of mosquito larval densities at Bicentennial Park at Homebush, and is persevering with the cataloguing of Westmead Medical Entomology's specimens onto computer database.

Visitors to the department include **Lisa Kerr** and **Nik Williamson** who have been employed as Mosquito Control Officers at Ryde and Parramatta councils respectively and have spent some time in our Laboratory to learn about mosquito identification and ecology. Their duties will be to liaise with the public to provide information on mosquito control. Other visitors include **Craig Hall** and **Nancy Aslani** who are both Sydney University microbiology students on work experience at Medical Entomology.

CERIT BIOSCIENCE
University of New South Wales

With Christmas, and people going on holidays, the corridors of CERIT were fairly quiet around December and into January, but everyone's back and things are starting to happen. **Chris Orton** is getting things organised ready to start teaching again soon. Being the second year, the course should run just as smoothly as last year and with less effort.

Another recent happening was the television stardom of our insects. The ABC program "The Investigators" filmed our mosquitoes for a story they are doing on repellents. While the Channel 7 program "The Times" filmed our flies for a story on dung beetles.

Correspondence with **Martin Shivas** tells us he is doing fine settling into his project and coping with the humidity of Darwin. The thing he's having problems with though is a plague of *Aedes vigilax* mosquitoes!

CERIT has had a number of visitors of late

including **Dic Morgan**, Product Development Manager of Rhone Poulenc Rural, **Vincent Beuvry**, Veterinarian, and **Pierre Baychelier**, Technical and Regulatory Veterinarian, of Virbac Australia and **Darrin Hindmarsh**, Manager of Queenstate Holdings Pty Ltd.

Steve DOGGETT
Regional Councillor

University of Sydney

Fred McDonald, after years of speculation about his retirement intentions, retired at the end of February in order to concentrate on his pentatomids. Fred announced his retirement at Fred's Mighty Birthday Bash, a celebration of his 60th birthday organised by **Andrew Beattie** and **Graham Goodyer** at the Bruce Williams Pavillion at the University on 18th February. This function was attended by more than 60 colleagues and former students spanning Fred's entire 30 year University career.

Fred McDonald opens his birthday present - a 4 volume *Introduction to Entomology*, published 1822 - 1826 [photo: Col Bower]

NORTHERN TERRITORY

NT Department of Health and Community Services Medical Entomology Branch

Staff of the Medical Entomology Branch, along with the entire population of Darwin, are breathing a collective sigh of relief in anticipation of the end of another prolific saltmarsh mosquito season. In general, saltmarsh mosquito plagues were not as pronounced as last year, to which my ankles can readily attest. An extensive effort by the Branch in cooperation with Darwin City Council and Conservation Commission has been made over the preceding months. The two recent additions to the technical staff have now been well and truly "blooded"! **Peter Whelan** is now off on a well deserved break in SE Queensland.

The baseline mosquito monitoring service offered to new mine sites in the NT is to include an additional mine, making 4 mines currently in the program. A fifth mine site has recently made enquiries.

There have been several reports compiled by the Branch, including the Annual Report and on mosquito investigations in Kings Canyon and Cobourg Peninsula. At present the Branch is in the process of organizing a mosquito control course for May 23-26.

NT Quarantine and Inspection Branch

Filming was completed for the new 'Top Watch' Quarantine Awareness Video starring **Ian** 'High Noon' **Haselgrove** and **Glenn** 'Top Gun' **Bellis**. They are advised to keep their day jobs however, as they mainly ended up on the cutting-room floor and the final version was overdubbed with professional voice overs. They'll probably even use body doubles on the posters promoting the video. It's a cruel world!

The detection of Type B *Bemisia tabaci* whitefly in Darwin in October involved **Ted Fenner** in numerous discussions on the quarantine implications of the find. It was therefore something of a relief to get away to north Queensland for a few days in November to discuss technical aspects of a Western Australian protocol for Mango Seed Weevil Freedom with **Jeroen den Hollander** (WADA) and **Ian Cunningham** (QDPI). These discussions were followed up a little later at the IPHRWG (interstate quarantine) meeting in Melbourne.

Australian Nature Conservation Agency

The tables have turned on **Michael Storrs**. As an ANCA employee now, he will have to set an example and not harm any native fauna, such as mosquitoes and flies, as he undertakes a 12 month term as a Project Officer developing a weed management strategy for Kakadu National Park. The insects can get their own back for all the indignities they've suffered over the years that Michael has earned a crust as an entomologist.

CSIRO Division of Wildlife and Ecology
Tropical Ecosystems Research Centre

Alan Andersen's lab has been a humming hive of workers on sabbatical. **Roger Clay** from the University of Adelaide became Roger Mud for 6 months as he studied zonation in mangrove ant communities, and also analysed his work on ants of Danggali Nature Reserve. He has now returned home but has been replaced by Danish visitor **Mogens Nielsen**. Mogens has commenced projects on the mangrove mud-nester *Polyrhachis* nr *sokolova*, and the foraging energetics of *Rhytidoponera aurata*. **Hanna Reichel** has completed her research on NT rainforest ants and has returned to Germany. The new CRC for Sustainable Development of Tropical Savannas is based in Darwin, and **Alan Andersen** will be leading a project on invertebrate indicators of sustainability (he means ants!). **Lyn Lowe** has successfully completed her first year back as a university student, and is currently holidaying in Indonesia and Vietnam.

DPI&F Entomology Branch

Following the departure of **Jay Layland**, to be replaced by **Kaye Hergstrom**, the entomology staff were eagerly awaiting the arrival of **Elle** after Kaye left on maternity leave. As you could imagine, there was great disappointment when **Graham Young** turned up. With the departure of **Stuart Smith** on a 4 month fruit fly consultancy in Mauritius, Graham was thrust immediately into the hot seat as acting principal entomologist.

The mango season is mercifully over (I, for one, could not force another one down) and so are the trials on hot water disinfestation of fruit. Trials to test the attractiveness of dung to *Mastotermes* and other termites continued at Berry Springs. The varieties of dung used and the results obtained remain a closely kept secret.

The biological control program for the palm leaf beetle recently struck an unexpected problem. Rearing of the eulophid pupal parasite, *Tetrastichus brontispae*, has been hampered by an outbreak of *Metarrhizium* in field populations of the host. Healthy beetle pupae are few and far between.

DPI&F Weeds Branch

A tropical depression has settled in over the Top End, and it's largely due to the weather. It's rained and it's rained and then it's rained some more. Our release sites are disappearing beneath the rising waters and we are fast running out of safe places to put our biological control agents. Safe for us, that is, as the 'giant mud geckoes' are on the move. **Leslee Hills** got the season off to a good start by getting bogged for two hours on a sodden black soil plain. "It looked firm" she explained later. It proved to be a good workout, as she went on to win the Australia Day squash tournament. **Grant Flanagan** returned from the Alice Springs Masters Games sporting a silver medal, and was rewarded with a stint as 'King Weed'. **Colin Wilson** also attended the Alice Springs Masters but isn't so hung up about winning - it's how you play the game that counts. OK, so his team finished second last in the basketball.

For those interested in light entertainment, there will be a circus on the lower Adelaide River floodplains in late January. **Sukumar Chakraborty** of CSIRO in Brisbane will be ringmaster, directing the clowns from CSIRO Division of Entomology in Darwin (**Grant Farrell** and **Mark Lonsdale**) and DPI&F (**Colin Wilson**) in mass spraying of mimosa with a suspension of spores of a fungal pathogen. There's a hilarious routine in which we erect scaffolding in the middle of a dense mimosa thicket in knee deep water, while fighting off leeches, mosquitoes and crocodiles. Talk about laugh!

Museum and Art Gallery of the Northern Territory

What has **Graham Brown** been up to lately? There was the Horn expedition to Palm Valley where he collected a few specimens, but nothing particularly interesting. Then he had a nice holiday at Mataranka. Doesn't it strike you as odd that someone of Graham's build should be interested in Thynnids?

Colin WILSON
Regional Councillor

NORTH QUEENSLAND

Northern Australian Quarantine - Mareeba

The two Valkuren from the north have done it again! Yes, **Barbara Waterhouse** and **Judy Grimshaw** have spotted another two sneaky pests encroaching on Australian territory. In 1993 it was Asian honey bees and Oriental fruit flies. The scores for 1994 are Siam weed and varroa mites. Siam weed is a declared P1 weed, which means it is to be kept out of the country at all costs. However, in mid July, when Barbara was in the Mission Beach area spotting mangroves on a day off, the driver took a wrong turn and she spotted Siam weed (*Chromolaena odorata*) alive and well and growing by the roadside. (How's that for sneaky? It didn't enter via Torres Strait and it had been here for about ten years). The finding of varroa mites (*Varroa jacobsoni*) was less dramatic. In late November, on Dauan Island in the Torres Strait, an accessible nest of *Apis cerana* (Asian honeybee) was spotted by Judy. The nest was robbed of its brood comb and subsequent examination of the drone cells revealed the presence of the mites. What was dramatic, was the effect of this finding on the Apiculture Industry.

Judy attended the centenary of the Queensland DPI Insect Collection in Brisbane in December. Not to be left out, the Mareeba DPI decided it was their collection's 50th birthday the same day and commissioned an appropriate cake. Judy left for a holiday trekking in Nepal in January and will probably keep her eyes open for insects of quarantine interest to Oz (and leave them there!). Not to be outdone, Barbara headed for Borneo.

Tropical Public Health - Cairns

Scott Richie has settled into the job of medical entomologist for Queensland Health in Cairns. He is the zonal coordinator of the Dengue Fever Management Plan, which encompasses the Peninsula and Torres Strait, Northern and Mackay regions of Queensland. In addition to his coordinating role he has a collaborative grant with **Phil Weinstein** of James Cook University to investigate remote sensing as a means to identify sites most likely to breed *Aedes aegypti*. Scott's position also involves malaria investigations, which have taken him to within 5 kms of the PNG border. Apparently the area has been dry as a bone, with nary a mosquito to be found. However, Scott was intrigued by a cultural mix - Papuans boating to shore on Saibai Island in a dugout outrigger powered by Evinrude.

BSES - Meringa, Tully and Ayr

Keith Chandler, Les Robertson, Paul Walker, Catherine Kettle and **Robert Cocco** met with **Peter Allsopp** in Ayr to plan this season's work on canegrubs. Strategies to be tested include irrigation and trash management, baits and trap crops, as well as short- and long-term insecticides.

QDPI - Mareeba

Since his Institute of Agricultural Science Award **Ross Storey** has become a multimedia star - TV News, various tabloids and a range of newsletters have all run features. It's probably the most publicity dung beetles have received since the height of CSIRO introductions in the sixties and seventies. Dung beetles may rise again as a major issue in nutrient recycling, given today's emphasis on Landcare, Natural Resource Management and Bioindicators.

Paul Cunningham, a PhD student at Imperial College, Silwood Park, spent 3 weeks in Mareeba looking at the oviposition behaviour of *Helicoverpa* in tobacco crops. Some of his more interesting moments occurred when negotiating back roads to his field sites by push bike under torch light - what snake?? Paul also impressed the local masters swimmers (the Barron River Rats) with his breast-stroke prowess. After his northern visit Paul headed south to Brisbane and Toowoomba to continue his studies.

Harry Fay and **Keith Halfpapp** were due to attend a CSIRO/ACIAR organised workshop on fruitpiercing moths in Brisbane in January. It was to be northerners' first opportunity to compare notes with workers from the western Pacific and temper that sense of isolation that comes from working on a pest left well alone by all but a handful of researchers. In December, Harry met with **Rhondda Jones, Phil Weinstein** and **Don Sands** (CSIRO) at James Cook University to discuss details of two likely PhD projects on fruitpiercing moths - these beasts seem to be getting some recognition at last!

Visitors to the Far North

Chris Reid, now based at James Cook University in Townsville, spent one week in Mareeba late last year where he discussed 1) the expansion of the JCU insect collection, 2) the

Mareeba DPI insect collection (QPIM), 3) potential chrysomelid projects with **Ross Storey** and 4) did a bit of sorting and identification in QPIM, and then spent a day at CSIRO Atherton discussing the newly initiated ecological survey of some wet tropic sites with **Paul Zborowski**.

Geoff Monteith also visited **Ross Storey** late in 1994 to discuss future joint projects and to obtain some label data from the QPIM collection. He also spent some time with **Jiro Kikkawa** discussing the newly established CRC for Tropical Rainforest Ecology and Management and the potential for the Queensland Museum's involvement. A few days of field work were also slipped in, with **Jack Hasenpusch** of Garradunga and **Phil Weinstein** of JCU.

Jack Hasenpusch and **Graham Wood** of Wondecla spent a few fruitless days at Iron Range. Graham reports that conditions were still too dry for much insect activity in the Cape.

Dr Kojima and **Professor Ito** from Japan spent a few weeks in the Atherton area to continue studies on the ecology of various species of paper wasps (*Ropalidia*).

Barry Moore is midway through several weeks at his property in Julatten. Barry is progressing in his fledgling study of the carabid fauna of his rainforest block.

Alan Walford-Huggins made his first visit to FNQ in several years to make invertebrate sample collections for Kambio. He spent several evenings talking old times and beetles with **Ross Storey**.

John Balderson is spending several months in the area collecting insects, especially mantids and beetles. Based at Malanda, no word has been received on his success or otherwise.

John St.Leger-Moss made his first visit to FNQ in 9 years. He caught up with several old ento mates and no doubt shortened the lifespan of a few cicadas.

Harry FAY
Regional Councillor

S.E. QUEENSLAND

Queensland Department of Primary Industries Toowoomba

Bernie Franzmann and **Russell Parker** are on the trail of the poinsettia whitefly (also known as the B-biotype of *Bemisia tabaci*, the silverleaf whitefly, and *B. argentifolii* - actually there are 23 synonyms of *B. tabaci*). They are using a squash colour test developed by **Robin Gunning** to identify the type. In Queensland so far it has been found at Brisbane, Toowoomba, Gold Coast, Townsville and Cairns. It has not yet been found in the field.

Brad Scholz attended the 4th International Trichogramma Conference in Cairo. Brad arrived in Cairo, but his luggage had a boring time awaiting a connecting flight in Los Angeles. A good and safe time was had by all at the conference.

Jay Bean left her wasp colonies last year to begin a new position with Pisces Enterprises in Brisbane. She is developing mass-rearing systems for insects sold as live food for pet shops, etc. She is already well underway to a commercial-rearing method for black field crickets and Australian plague locusts, and will be introducing new species as markets are investigated. Meanwhile, the wasps are now in the capable hands of **Andrea Kratzke** who previously worked part-time for **Bernie Franzmann**.

Queensland Department of Primary Industries Applethorpe

Frank Page has a bait-spray trial in progress as part of an interstate Horticultural Research and Development Corporation project for the control of Queensland fruit fly. Fly activity has generally been low but should increase after recent January rains. Some fly damage occurred in unsprayed apples but not in baited trees. Other insects have not been so badly hit by the drought. Codling moth activity has been high during the hot dry weather, as have European red mites and two-spotted mites. These mites have required treatment in many orchards.

Queensland Department of Primary Industries Indooroopilly

Following the $40 million fires of early November 1994, destroying 5000 hectares of high grade Pinus plantation timber, **Ross Wylie**, **Judy King**, **Murdoch De Baar** and **Chris Fitzgerald** have been busy monitoring for Ips bark beetle attack. Salvage operations are in full swing, but *Ips grandicollis* is already causing havoc and introducing blue stain into some standing timber. The biggest holes also accelerate drying and degradation. Many stands of young plantations damaged by fire will have to be bulldozed and replanted.

The Centenary of the QDPI Insect Collection was held at the Indooroopilly Laboratory complex

on 12 December 1994. About 120 people attended the function, which had various entomological displays. Reminiscing by past taxonomic staff provided a lighter note to the evening. The highlight of the evening was a painting received by **John Donaldson** from the Houston family in memory of their son, the late **Ken Houston**. **John Donaldson** and **Marlene Elson-Harris** organised the function.

University of Queensland
Gatton College

IGP Dwidja Putra, Head of Department of Plant Pest and Diseases from the University of Udayana, Bali, Indonesia visited **Errol Hassan** for 3 days to discuss plant protection courses and to gain first-hand information on vegetable pests, their control and on pest monitoring techniques. **Errol** and **Dr Putra** visited several farms in the Lockyer Valley and the Darling Downs. **Dr Putra** also observed a tomato harvesting machine in operation in the Lockyer.

Errol Hassan was invited by the Queensland Orchid Society to deliver a paper on the biological control in orchids during their recent conference.

Recently **Errol Hassan** organised and conducted a special course for 7 Philippine candidates from the Department of Plant Protection, Bagio City on pests of fruit trees and biological control of mites. The course was sponsored by the German Technical Aid (GTZ). The course was about 6 weeks. **Gavin Potter** of the Horticulture Section was also involved in the course, providing expertise in fruit tree crop management and agronomy. The group visited several fruit growers in Stanthorpe, North Coast and Crows Nest areas to gain first-hand knowledge of farm management, pest control and integrated pest management at the grower's level.

The Organising Committee of the International Neem Conference - **Michael O'Shea**, President, from Neemoil Australia, **Errol Hassan,** Vice President; **Gordon Gordh**, Secretary and **John Dingle**, Treasurer - met at Gordon's office to discuss and develop strategies for the forthcoming conference. The conference will be held on 4-9 February 1996 at the University of Queensland Gatton College. The committee has mailed approximately 400 leaflets to overseas and within Australia. Most of the leaflets were returned with intention to register for the conference.

Craig Davis from the International Food Institute, Queensland Department of Primary Industries, visited **Errol Hassan** to discuss collaborative research.

Errol Hassan, **John Swift**, **Ron Gallagher** and **Peter Warhurst** conducted a successful beekeeping course at Gatton College. Delegates came from Queensland, New South Wales and Victoria. This was the 39th Beekeeping Management Course.

Neil Heather, QDPI, Indooroopilly, visited **Errol Hassan** to discuss collaborative research and discuss with **Simone Schlack** about her Masters degree and **Qazi Razzaque** who is doing his PhD with Errol and Neil as co-supervisors.

CRC for Tropical Pest Management

The Centre has recently received the exciting news that it has been offered a two year extension. This provides a total seven year contract period. The extension reflects the success the Centre has achieved in developing an appropriate structure and attracting staff who are committed to facilitating a cooperative and integrated program of research, training and implementation.

CTPM Director, **Geoff Norton**, spent most of November promoting the Centre overseas. He visited Canada, USA and the UK. He presented a number of seminars on pest management along the way.

David Walter has returned from 4 weeks in North America where he presented a paper at The First International Canopy Conference - Forest Canopies: Ecology, Biodiversity and Conservation at the Marie Selby Botanical Gardens in Sarasota, Florida. His paper with **Dennis O'Dowd** of Monash University was titled "Beneath Biodiversity: factors influencing the diversity and abundance of canopy mites". David also presented a number of other papers in Canada.

Rob Sutherst spent a week in Beijing at the Beijing Agricultural University. He was sponsored by the Chinese Academy for Science and Technology to negotiate a joint ACIAR funded project on developing software for pest risk analysis for the China Animal and Plant Quarantine Bureau. Prospects look good for an exciting project.

Dave Holdom and **Chris Monsour** attended The Pacific Rim Conference on Biotechnology of *Bacillus thuringiensis* and its Impact on the Environment in Taipei, Taiwan. At the conference,

Chris presented a paper written by himself, **Bob Teakle** and **David Holdom**. The paper titled "Conventional and transgenic Bts: A comparison of laboratory and on-plant performance" will appear in the Conference Proceedings. In the following week Dave visited the Asian Vegetable Research and Development Centre at Shanhua, Taiwan, and the Pingtung National Polytechnic Institute, a small college in the south of the island.

During Weeds Awareness Week, the Minister of Lands, The Honourable Jeff Smith, was on hand to launch a new program, Beetle Watch. Beetle Watch was developed by **Sonya Broughton** as part of her postgraduate research with CTPM. The program is aimed at upper primary school children and involves the collection of biocontrol agents (beetles) from lantana. The project is funded by CTPM, Landcare Queensland and Lands Department. A local school group was present at the launch, and the children industriously caught and identified beetles collected from lantana. A good time was had by all!.

Larissa Wilson attended a regional Parthenium strategy workshop organised by the Rolleston Landcare Group in Emerald in late November. Workshop participants included grain growers, graziers, Landcare and community groups, QDPI, QDL, Queensland Railways, agribusiness and mining. The major outcome was the formation of a Parthenium Action Group with land holder membership and support from other participants. Larissa also recently visited the Institute for Horticultural Development in Melbourne and the Institute for Sustainable Agriculture in Tatura (near Shepparton). She made valuable contact with people involved in pest management research and extension in Victoria.

John Foster travelled to Canberra for a workshop on Agricultural Biotechnology and liaised with policy makers involved in drafting new legislation pertaining to the formation of a new statutory authority, the Gene Technology Centre.

Lyn Aitken went on a research trip to Bundaberg in December to talk to tomato growers and consultants about pest management and their perceptions of IPM. This was part of the RIRDC funded project to review IPM programs in Australia and overseas to determine key factors affecting successes or failures.

John Rogers will be visiting peanut growing areas of central Queensland during late January as part of developments for a joint Queensland-Indian project on peanut whitegrubs.

Gordon SIMPSON
Regional Councillor

Private sector

Dan Papacek (Bugs for Bugs, Munduberra) travelled to Brazil in December. He presented a paper on IPM at the 3rd International Seminar on Citrus, which is being held in São Paulo.

Queensland Dept of Primary Industries
Indooroopilly Labs

Merv Bengston visited Vietnam in December, where he gave a paper at an international workshop on postharvest technology. As well as attending the workshop in Hanoi, he will visit grain storage facilities near at the Mekong Delta. After Vietnam Merv will participate in reviews of ACIAR projects in China, the Philippines and Malaysia.

Queensland Dept of Primary Industries
Queensland Forest Service

Brenton Peters and **Chris Fitzgerald** recently collaborated with **Michael Lenz** (CSIRO Canberra) in initiating soil termiticide trials at Beerburum. The trials are expected to take 5 years.

Following the recent devastating fires in Beerburrum, **Ross Wylie**, **Judy King**, **Chris Fitzgerald** and **Murdoch De Baar** have been monitoring for the attack of trees and logs by *Ips* bark beetle. The information gathered will give an indication of the amount of time available for salvage of timber following fire. Drought-stressed or fire-damaged trees are susceptible to attack by this insect, which introduces a fungus into the trees. As a result of their monitoring, the quarantine line will be relocated further north from its current position at Miriamvale. As a result of beetle attack the timber is degraded through drying out and sap staining.

University of Queensland
Department of Entomology

Margaret Schneider joined a team of visiting scientists on 25 Oct for the very important business of injecting some entomological enthusiasm into primary school children as part of the Beenleigh area Primary Schools Science Fest 94. Visitors to the University Insect Collection included **Don Scambler** from Ballina for work on Cerambicids.

Myron Zalucki visited **Martin (Matt) Dillon** and

Wayne Rochester (2 UQ postgrads) at Narrabri on 2-3 Nov to catch up on collaborative CTPM/Cotton CRC research projects. Myron reports that he has won a travel grant to go back to the USA in 1995 for a month. Also, **Paul Cunningham**, a PhD student from Imperial College at Silwood Park is visiting Myron to work on oviposition behaviour of *Helicoverpa* in the field.

David Walter attended a symposium on Forest canopies in Sarasota, Florida and the Dept of Biology, Queen's University, Kingston, Ontario. David has been awarded an ABRS grant on "Phytoseiidae (Acari, Mesostigmata) of the Australian tropics" and an ARC grant to study mites and biodiversity in the rainforest canopy.

David Yeates will be continuing his very successful Evolution and Systematics discussion group. Informal discussions have recently revolved around biodiversity and the phylogenetic species concept and anyone who is interested is welcome to come along.

Gimme Walter has been promoted to Reader within the department - congratulations Gimme! **Krisana (Jo) Rungrojwanich** returned for a whirlwind 2 weeks in October to finalise corrections on her PhD thesis. **Joan Bryan** is in London on leave till Feb 1995 where she is busy attending conferences and the occasional art exhibition. Ex Hons student and Departmental Research assistant **Tania MacDonald** is leaving Oz for an indeterminate time to expand her horizons in Great Britain - we wish her well.

Griffith University

Roger Kitching recently returned from attending the International Congress of Ecology in Manchester where he participated in and delivered a paper in a symposium on Arthropods in Tropical Forest Canopies, followed by attendance at the IUFRO Conference on Measuring and Monitoring Biodiversity in Tropical and Temperate Forests held in Chiangmai, Thailand. Roger then ventured to Canberra to participate in the launch of the National Biodiversity Council (of which he is the Queensland member). He also had extended discussions with ANIC members concerning joint projects within the CRC in Tropical Rainforest Ecology and Management (CRCTREM).

Griffith University launched its new premises for the local node of the CRCTREM. The launch was attended by **Michael Pitman**, the Chief Scientist, and **Keith Boardman** of the central CRC Committee as well as a range of Brisbane entomological and ecological dignitaries! **Denis Rodgers** has started his PhD work at GU. He will work on the invertebrates associated with epiphytes in tropical and subtropical rainforests.

The Arthropod Biodiversity Laboratory was visited by **Laurence Mound** for discussions on what to do about the many and novel thrips in our collections.

Professor **Toshi Matsura** from Kyoto University of Education is visiting Griffith under the auspices of an Australia-Japan Exchange Fellowship. He will be continuing his work on the curious pit-and-trench strategy of the antlion, *Callistoleon manselli*.

Jane Hughes and **Stuart Bunn** are celebrating their receipt of a large ARC grant to pursue studies of gene flow and recolonisation patterns in stream invertebrates in the Conondale Range - needless to say these are mostly insects.

Queensland Dept of Lands
Alan Fletcher Research Station

Graham White who joined the Department of Lands just 2 years ago as the Professional Leader at Alan Fletcher Research Station resigned on 18th November. Graham's departure is a great loss to the Department of Lands and the Alan Fletcher Research Station in particular. Graham has been a very active member in the entomology community in Brisbane and previously worked in stored grain entomology at DPI. He will be swapping administration for housework, subsistence farming, bird watching and entomology. Graham intends staying in touch with the entomological community through completion of some partly-written papers, refereeing manuscripts, and perhaps some part-time work. We wish him every success.

Jennifer Marohasy recently spent a week in north west Queensland addressing a landcare meeting in Richmond on prospects for the biocontrol of prickly acacia and visiting with local land-holders.

Graham Donnelly visited the Philippines as part of the ACIAR funded siam weed (*Chromolaena odorata*) project during early December. At the University of Philippines, Los Baños, he met with **Domin Torres** of the National Crop Protection Centre and saw their newly refurbished quarantine insectary. Graham travelled with Domin to the island of Palawan and surveyed damage to siam

weed by the arctiid *Pareuchaetes pseudoinsulata*. At the Davao Research Centre in Mindanao, where *P. pseudoinsulata* is being mass reared, Graham caught up with **Manny Aterrado**, a participant in the 1994 CTPM Weed Biocontrol Course. Manny is the entomologist in-charge of the biocontrol project for the Philippine Coconut Authority.

CSIRO Division of Entomology
Long Pocket Labs

Richard Vickers from the Canberra labs visited Long Pocket Labs to familiarise himself with tropical horticulture projects. Following a reorganisation of divisional programs, closer links will be established between Canberra and Brisbane temperate and tropical horticulture. Richard gave a seminar on his work using pheromones to control codling moth in apple orchards.

Wilco Liebregts, who works on the CSIRO / ACIAR fruit piercing moth project in Tonga, visited to assist **Veronica Brancatini** and **Mary McCarthy** to run a fruit piercing moth workshop held 16-21 January 1995. **Minate Tenang**, chief agricultural officer in Kiribati also visited and remained, stranded, when they closed their airport. He used the time to visit ACIAR staff in Canberra.

The tropical horticulture group has captured **Peter Jones** who will be refining methods of culturing parasitoids of the fruit piercing moth. Peter is retaining some hours with his previous employer, the United States Dept of Agriculture, biocontrol of melaleuca project.

Matthew Purcell has left the USDA melaleuca project to begin working with **Tony Wright** in the ACIAR water hyacinth project. This initiative will include investigations on the interactions between the water hyacinth biological control agents. **Richard Chan** will be working with him.

Ken Harley has been to Africa again; this time to attend a conference on tropical entomology and then to a national parks weeds meeting in Kruger. More big game seen than weeds. **Peter Ashton**, weed biologist from RSA, visited Griffith Uni and Long Pocket in December.

Jim Hanan is visiting colleagues in Canada in February assisted by the generosity of a DITAC grant. **Miriam Raymond** visited LPL from Moree to deliver and discuss data on cotton plant growth and caterpillar movement with **Peter Room** and Jim.

Queensland Museum

Tracey Churchill represented arachnology at the first field trip commemorating the 100th annniversary of the Horn Expedition to Central Australia. The original collection included a spider fauna with remarkable affinities. Tracey found the area highly hospitable and the collecting very rewarding.

Donna Rayner, University of Central Queensland MSc student working on spiders in mangoes, visited the Museum & CTPM briefly.

The spider season, after a false start back in September-October, has just fired up with male funnelwebs appearing in the Maleny ridges. **Penny Greenslade** comes to the Museum in late January for a week or two to work on her National Estate project to compile a list of Queensland sites for possible heritage nomination on the basis of their invertebrate values.

Geoff Monteith and **Heather Janetski** went to Darwin in mid March to run a series of their educational insect workshops at the Northern Territory Museum in conjunction with their opening of "Gargantuans from the Garden". Geoff spent a week in North Queensland in late November during which he handed over 15,000 Wet Tropic insect records to the Wet Tropics Management Agency and set up six insect trap sites on the Atherton Tableland.

Robert Raven and **Geoff Monteith** will spend some time in December with a British film crew at Lamington National Park.

United States Dept of Agriculture
Aust Biological Control Labs

Peter Jones has been soldiering on a half-time basis on the melaleuca project. He has had quite a bit extra to do since **Matthew Purcell** left the project at the end of September. To assist Peter, **Kylie Galway** has joined the melaleuca team in Brisbane.

Tim HEARD
Regional Councillor

SOUTH AUSTRALIA

Department of Crop Protection
University of Adelaide

The Department received a major boost in December with the award of a CRC for Weed Management Systems, in conjunction with NSW Agriculture and the CSIRO. Under the directorship

of **Steve Powells**, the Centre aims to develop environmentally safe and sustainable weed management systems for a variety of land uses including annual agro-ecosystems (wheat-sheep zone), perennial pastures and natural ecosystems. Additionally, the CRC will offer a coordinated approach to weed management education to undergraduate and postgraduate students, land and natural resource managers and the community in general. Importantly, the Centre will emphasise communication and interaction between land managers and researchers to ensure adoption of the results of weed research and resultant weed management strategies. The CRC's goal is to reduce the costs of weeds to Australia by at least 10% by the year 2000, yielding projected savings to the Australian agricultural community in excess of $330m. Research will be based primarily at Adelaide, Orange, Wagga Wagga, Tamworth and Canberra, with collaboration from various research centres across Australia.

The parasitoid research group was highly successful in the latest ARC funding round, with **Otto Schmidt, Andy Austin** and **Mike Keller** all receiving large grants for various aspects of parasitoid molecular, systematic and behavioural research.

In late October a Chinese delegation, including **Professor Lin Zhi Liang**, Director of the National Natural Science Foundation of China's Division of Agriculture, **Professor Zheng Hui-Ying** of the Beijing Institute of Botany and **Professor Hu Peng**, Director of the Grassland Resources Institute of Xinjiang, visited the Waite Institute. The group toured Waite Campus facilities, and spoke at length with staff and students about their research.

Dr Peter Cameron, of Crop and Food Research, Auckland, visited **Mike Keller** in November to examine rearing methods for parasitoids of the cabbage white butterfly in preparation for the import of *Cotesia rubecula* into New Zealand. In December **Dr David Bird**, of the University of California, gave a lecture within the Waite Distinguished Lecturer Series on gene expression in nematode-induced plant giant cells, and took the opportunity to speak with numerous members of the Department. Also in December, **Professor Joel Brown**, a mathematical ecologist with the University of Chicago, Illinios, met with **Mike Keller**, **Scott Field** and **Greg Calbert** to discuss aspects of their field modelling of *Trissolcus* behaviour.

Jörg Kitt's rose aphid parasitoid *Aphidius rosae* has spread from Adelaide as far as Murray Bridge (about 80 km), and appears to have established in several country locations in S.A. and Victoria where as few as 16 parasitoids were released. Commercial rose growers have been impressed by the impact of the parasitoids in their first year of release. Many growers have been able to reduce the number of sprays required for aphid control from 2-3 to one per year, and this has generally been to control the potato aphid *Macrosiphum euphorbiae*. Meanwhile, **Jannine Lloyd** has described several parasitic nematodes recovered from invertebrate hosts, including a species of *Fergusobia* which forms an unusual diphasic relationship with eucalypt gall-forming flies of the family Fergusoninidae.

The fast approaching 1995 academic year has precipitated the usual flurry of activity amongst teaching staff. Amidst his teaching preparations, **John Jennings** has been busy editing the new Directory of Southwest Pacific Entomology, which will be published by the Society later this year. February-March will see an influx of new honours and postgraduate students into the Department. Honours student **Darryl Jackman** will study the searching behaviour of the citrophilous mealybug parasitoids *Tetracmoidea brevicornus* and *Coccophagus gurneyi*, while **Chris Soar** will examine the efficiency and impact of the citrus leaf miner parasitoids *Ageniaspus* spp. Postgrads **Steven Ball** and **Dwi Iswari** will join the Keller lab in the near future.

Congratulations go to **Gwenda Mayo** and **Andy Austin**. Gwenda, an honours student in the Department, is the 1994 recipient of the T.O. Browning Medal for distinction in entomology, while Andy has been awarded the University's 1994 Supervisor of the Year Award.

Jeff Waage has asked for a copy of the photograph/slide taken of him on the bench in North Adelaide that commemorates the discovery of the Vedalia beetle. Would the photographer contact Mike Keller at the University of Adelaide (Phone (08) 303 7263) to arrange a copy for Jeff?

CSIRO Entomology and Soils

Geoff Baker spent 6 weeks surveying for earthworms in France in late 1994. The trip was funded by OECD. European earthworm species predominate in Australian agricultural fields. They were accidentally introduced to Australia, probably

in potted plants brought in by early settlers. Some of these European species have broad distributions, ranging from temperate to Mediterranean habitats. The objective of Geoff's trip was to begin collecting examples of "our" common species from a range of climatically variable sites in Europe and, in collaboration with **John Curran** and colleagues in CSIRO Entomology (Canberra), to later use PCR-based molecular biological techniques to compare these specimens with our current fauna, to trace its origins and query its ecological appropriateness. Geoff was principally based at ORSTOM in Paris and the CSIRO Biological Control Unit in Montpellier, but also spent time at the University of Rennes' field station in Paimpont Forest (near where the French believe King Arthur had his Camelot!) and INRA laboratories in Dijon and Avignon.

John Buckerfield spent much of the last part of 1994 extending the results of recent earthworm research through farmer workshops. A particularly intensive bout occurred in northern New South Wales, where there were 8 presentations during "A Week of Worms" coordinated by **Rebecca Lines-Kelly** from NSW Agriculture (Wollongbar).

Ping Choo has recently joined the group and will be undertaking an Honours degree in the Department of Soil Science at the Waite Institute. Ping's project is likely to centre on interactions between commonly-used agricultural pesticides and earthworm abundance and performance.

Private Entomology Sector

James De Barro reports that the South-East lucerne seed crop season is in full swing, with dry and warm weather from October onwards having led to some excellent dry land seed crops and early irrigated crops. Although *Helicoverpa* numbers are on the increase, green and Australian crop mirid populations have so far been minor, with little control being necessary. *Plutella xylostella* has proven to be a problem in some late season cabbage and mustard crops during January. Although initial knockdown rates have been good, the presence of several overlapping generations has made spraying for control difficult. The moths apparently complete their life-cycle in 6-7 days on these crops. James would be interested to hear from anyone who has experienced similar difficulties in *Plutella* control.

Bill FROST and Mike KELLER
Regional Councillors

VICTORIA

Water Ecoscience

The State Water Laboratory and the Melbourne Water Laboratory have merged to form Water Ecoscience Pty. Ltd. The merger is the result of cost efficiency measures jointly undertaken by the two parent organisations, which equates to "restructure and sell off".

Water Ecoscience (WES) resides at Ricketts Rd, Mt Waverley, in the remodelled, refitted and refurbished MWL building. WES is continuing the services of the former laboratories, ie. biological, microbiological and chemical analysis and consulting services.

The zoology group is dominated by invertebrate staff (7 out of 9), with wide-ranging areas of expertise, which reflects the interest and funding available for aquatic invertebrate research and survey at the moment. The staff are **Rhonda Butcher** (riverine environments, conservation issues, statewide biological monitoring), **Phil Mitchell** (riverine environments, urban billabongs, Water Watch), **Keith Ferdinands** (urban streams and wetlands), **Danny Vertessy** (Streamwatch, Murray River inverts.), **Alistair Cameron** (wetland inverts., fish biology), **Kylie Lewin** (chironomid deformities, toxicants in urban streams) and **Tina Smith** (urban streams, reservoirs).

For any further information, contact either **Rhonda Butcher** on (03) 550 1055 or **Garry Bennison** on (03) 550 1043.

Agriculture Victoria
Sunraysia Horticulture Centre, Irymple
(Plant Protection Section)

The Plant Protection group at SHC were the proud winners of the 1994 Daniel McAlpine award for outstanding achievement by staff of Agriculture Victoria. The group won the award for their achievements in the development of integrated pest management for the grape and citrus industries in Sunraysia. The award was presented by Minister for Agriculture, **Bill McGrath**, to group representatives **Greg Buchanan, Bob Emmett, Julie Hawtin** and **Alison MacGregor** in Melbourne at the end of November. The award provides a $5000 travel scholarship to gain relevant experience in interstate or overseas establishments.

Monash University
Ecology and Evolutionary Biology Department

It is pleasing to announce that **Shelley Rozario** has officially received her PhD, with only a few spelling corrections to be made, and very good reports. She has taken up a new job as a Research Scientist with Agriculture Victoria in Mildura, and will be sampling grapes.

Kathy Lefevere is back on the research front this year, despite her full-time commitment to First Year Biology teaching! She has been awarded a small ARC grant to work on the use of peptide hormones in new strategies for controlling insect pests. She will also be supervising an Honours project this year, in collaboration with **Andrew Kotze** (formerly of BCRI, Rydalmere, see p. 23).

Rhonda Stieglbauer will investigate the effects of an IGR on the hormonal control of moulting in *Lucilia*.

From the "wet" entomologists of the Department:

Deborah Nias has recently started her PhD with **Paul Bailey** and is examining food web structure during the wet and dry phases of an ephemeral wetland near Shepparton.

Nadine Cubberley is in the middle of writing up her Master's thesis, hoping to submit by May. Nadine has been examining the effects of increasing stream salinity on insect community structure, to some extent building on **Danny Vertessy**'s earlier work for his Master's. Speaking of **Danny Vertessy**, he is to be congratulated for recently being awarded his Master's degree and has, it is rumoured, secured a cosy little job in the Aquatic Ecology Group, Melbourne Water (or is it Ecoscience now? Old Jeff Kennett loves changing names!).

Paul Bailey and Co. are still crashing around very dry wetlands right now (it's one of the problems of working in ephemeral wetlands - sometimes they are more ephemeral than others), and collaborating with **Geoff Gurr** (Orange Agricultural College) examining the behaviour of *Copidosoma koehleri* (parasitoid of potato tuber moth) on various solanaceous plants. **John Gooderham**, an Honours student, will be starting with Paul in February, examining part of this topic for his thesis. Talking of carrion, Paul recently spent a week with **Peter Hammond**, Natural History Museum, London, examining staphylinids collected over the last couple of years from baited pitfall traps in the Melbourne area.

CSIRO Division of Forest Products

With the June ban on organochlorine termiticides rapidly approaching, Forest Products have been shifting into high gear to exploit the benefits of their long-term research into alternative measures. **John French** is reshaping the termite control industry with his bait-box methods and has just completed his first series of workshops, where he taught the methods to pest controllers and regulators in five states. **Berhan Ahmed**'s days now include an awful lot of telephone answering, but CSIRO information officers now have lists of pest controllers who have done the training, so hopefully he won't be tied down forever. Book early for the next round of workshops. Back in the labs, several good leads have emerged in the search for a replacement for As_2O_3.

John's other invention, the granular minerals termite barrier commercialised as "Granitgard" is gearing up for a large slice of the construction market. Insurers to the pest control industry, Rapid Solutions, recently described the Granitgard system as a "sure bet" and urged their customers to use it, so the chemical mind-set is finally coming down. **Don Ewart**, seconded to CSIRO by Granitgard Pty Ltd, is busily testing candidate stone from a host of hopeful quarry companies. Experiments on retrofitting Granitgard to existing buildings have now gone full-scale with four dwellings now protected.

Agriculture Victoria, Plant Sciences and Biotechnology, La Trobe University

Garry McDonald has spent a month in north-west Pakistan (NWFP) discussing and reviewing pest management research - and will never complain about the level of political interference in (Australian) research again! **Kylie Moritz** has been appointed as an entomologist to develop redlegged earth mite resistance in canola. Sadly, **Jim Woodward** has quietly resigned from the group.

Gordon Berg has recently been appointed as Secretary of the Plant Health Committee and attended their 14th meeting at Lenswood, South Australia in November. Whilst in South Australia, the group visited entomology colleagues in their new location at the Waite and inspected the new SARDI/University facilities currently under construction.

Andrew HENDERSON and Robyn COY
Regional Councillors

WESTERN AUSTRALIA

WA Department of Agriculture

Since July 1993 until now 5 shires in WA have been experiencing a major problem with stable fly *Stomoxys calcitrans*, which has resulted in **Ian Dadour** being inundated with phone calls. In 2 Shires there are now working parties set up to establish where exactly this fly is breeding in the rural area. Many livestock have up to 6000 flies on them causing substantial weight loss and often resulting in death from trampling. Horses have been destroyed by owners because of the fly and cattle have been moved off properties. Chemicals are over-challenged and do not work. Fly removal using the Williams trap has been marginally successful with some properties catching over 1 million flies per day. Ian would be interested to hear from anyone interstate that is currently or has previously worked with stable flies.

Tony Postle confirmed that european earwigs, *Forficula auricularia* were recorded in WA for the first time late last year at both Manjimup and Albany. These insects can be a pest of canola and lettuce and also prove to be an aesthetic pest.

Curtin University

The past three months have been relatively quiescent from an entomological point of view. However, the situation is now improving because the School of Environmental Biology has been given a large room which is being equipped as an entomological laboratory. This laboratory will complement the soil and litter fauna extraction room which was completed two years ago. This air conditioned room contains 10 large Tullgren funnels for extracting litter fauna and six multiple canister (20) heat extractors for extracting soil fauna. This facility is available for use by other organisations - anyone who is interested in using them should contact Jonathan Majer.

University of Western Australia

Leigh Simmons will be returning to the Zoology Department later this year after having successfully obtained an Australian Research Council Fellowship. Leigh will be delving further into sexual selection and the evolution of reproductive strategies in katydids

David COOK
Regional Councillor

OVERSEAS NEWS

NEW ZEALAND

Curator of Entomology at the National Museum in Wellington, **Ron Ordish** recently retired after 38 years of service. During his long career, Ron ensured the entomological collection was properly maintained and always made it available to the hundreds of bone fide borrowers. He is an expert on several aquatic beetle families and weta behaviour and biology. Ron will continue his work at the museum as a Research Associate. His successor is **Phil Sirvid*** who has been appointed Entomology Collection Manager. Phil has a BSc with Honours from Victoria University and his main interests are spider systematics and ecology - and talking of spiders....

A harmless looking Australian spider with a venomous bite is being featured at Waikanae's (near Wellington) Nga Manu sanctuary to educate people about its nasty nature.

Lampona cylindrata or whitetailed spiders can cause swelling of the affected area, aches and pains, rashes and nausea. The spider was first recorded in New Zealand in 1887 and has established itself in urban areas where its prey, the Australian grey house spider is found. The spider is not aggressive nor does it have the same powerful venom as the native katipo, *Latrodectus katipo*, but it is common throughout New Zealand.

Former Otago Museum Director Dr **Ray Forster** and world renowned acarologist was made a Fellow of the New Zealand Entomological Society at its Annual Conference last May. He is only the third person to be accorded this honour. Dr Forster has received a number of other awards including a Fellowship of the Royal Society and the Queen's Jubilee Medal.

This years Entomology Society of New Zealand Conference will be held at the Forest Research Institute at Rotorua from May 15 -17. For further information, see *Myrmecia* **30**(4): 63, or contact Dr **John Hutcheson**, Forest Research Institute, P O Box 3020 Rotorua, NZ., Fax +64 -7 -347 9380

* Phil Sirvid is looking for a reliable supplier of blocks of camphor. If anyone can recommend a supplier please contact Phil at the Museum or via email on phils@aotahi.monz.govt.nz

John TENQUIST
Overseas Correspondent (NZ)

PAPUA NEW GUINEA

The following papers of entomological interest appeared in Volume 37(2) (November 1994) of the *PNG Journal of Agriculture, Forestry and Fisheries*:

1. Notes on two minor insect pests in the Highlands region, by E.S.C. Smith....pp 30-35
2. Phytophagous insects of the giant sensitive plant (*Mimosa invisa*) at Ramu, PNG, by L.S. Kuniata and H. Nagaraja....pp 36-39
3. *Cordyceps* sp., an important entomopathogenic fungus of cicada nymphs at Ramu, PNG, by L.S. Kuniata....pp 47-53
4. Pests and disease of shade trees and their relation to cocoa in PNG, by S. Laup....pp 76-85

The following articles of the extension journal *Harvest* are of entomological interest:

1. Introduction of ants as potential biological control agents with particular reference to cocoa, by J.D. Majer... pp 1-4
2. Botanical pest control in cabbage: Potential neem products in IPM programs in PNG, by Helmut Saucke... pp 16-19.

The PNG Government has approved the establishment of a National Agricultural Research Institute (NARI) as well as an autonomous PNG Quarantine and Quality Management Authority. These organisations, to be carved out of the Department of Agriculture and Livestock are expected to take shape in 1996 depending on the country's cash flow situation.

Ray KUMAR
Overseas Correspondent (PNG)

ELECTRONIC NEWS

ON-LINE IPM INFORMATION

Since writing my article concerning on-line IPM information which appeared in the November issue of *Myrmecia*, there have been some changes to the access of some of the services I listed. The following information is therefore supplementary to my article.

To get into the IPMnet you should type "gopher" at the "cicp login" prompt.

You can also be sent the latest IPMnet news report by typing (for Australia) "ftpmail@cs.uow.edu.au" It may take a while for the report to be sent.

The IMPACT system is totally restricted from 10.00am to 5.00pm Pacific time (I'm unsure of what type that is EST), which may account for the limited access.

Paul A. FARRELL
M.Sc. Student
Bundaberg Research Station
Queensland
email: farrelpa@topaz.cqu.edu.au

Natural History Collections Listserver

A forum for discussion of all aspects of natural history collections is available through this listserver managed by Paula M. Sumpter of the Milwaukee Public Museum Inc. The listserver is co-sponsored by the Association for Systematic Collections and the Society for the Preservation of Natural History Collections. Much of the discussion concerns management of vertebrate collections but much of the information is relevant to entomological collections. It is also an appropriate forum for seeking advice on entomological storage problems, including questions regarding supplies and materials used in collections.

To subscribe to this list:

1. Send an email message to:
   listproc@ucmp1.berkeley.edu
2. In the text field, type:
   SUBSCRIBE NHCOLL-L followed by your full name

Your subscription will be acknowledged and you will be sent a list of instructions.
To post messages:
Send to NHCOLL-L@UCMP1.BERKELEY.EDU

Smithsonian Institute Gopher Server

The Department of Entomology, National Museum of Natural History, Smithsonian Institute Gopher Service is on-line. It contains information about the staff, resources available to visitors, newsletters maintained by staff members and information about the collections. The information has been compiled by NMNH staff as well as staff of various associated organisations located at the National Museum of Natural History, including the USDA Systematic Entomology Laboratory, the Walter Reed Biosystematic Unit and the Maryland Center for Systematic Entomology at the University of Maryland. The information contained in these files should be viewed with caution - this is an evolving product that will be edited, upgraded and expanded over time.

The NMNH Entomology Gopher is located at nmnhgoph.si.edu and is reached through Gopher

client software. World-Wide Web users with MOSAIC or other WWW client software can access this information at URL http://nmnhwww.si.edu.nmnhweb.html via the National Museum of Natural History home page. Contact your Internet provider for detailed information about access to these services.

For general information about the NMNH Department of Entomology Gopher, contact Jerry Louton, NMNH mail stop 165, Smithsonian Institution, Washington DC 20560, USA; Email: MNHEN001@SIVM.SI.EDU.

COMING EVENTS

ENTOMOLOGICAL SOCIETY OF AMERICA, SECTION A
(systematics, morphology, evolution)

1995 ANNUAL MEETING
LAS VEGAS, DEC. 17-21.

At the Annual Meeting of the Entomological Society of America to be held in Las Vegas Dec 17-21, Section A will sponsor three symposia the theme of which will be "Transitions." In addition to Sectional Symposia, the Society will sponsor Program Symposia to be selected from among symposia proposals submitted to all Sections. A third category of symposia, the Joint Symposium, will be initiated this year for symposia proposals involving two or more Sections of the Society. Symposia cannot exceed 4 hours.

There are no restrictions on the topics of proposed Symposia if the subject matter is relevant to Section A. Topics that have been suggested as potential symposia include the following:

1) The transition from land to water - evolution of aquatic arthropods
2) abiotic selection of adaptations in arthropods,
3) contributions of amateurs to systematics
4) evolution of metamorphic transitions (hypermetamorphosis and other developmental quirks)
5) transitions in feeding strategies of phytophagous insects (perhaps jointly with Section B or C)
6) role of systematics in conservation.

Individuals interested in organizing or contributing to any of these potential symposia should contact Richard Brown as soon as possible.

Richard L. Brown
Mississippi Entomological Museum
Box 9775
Mississippi State, MS 39762-9775 USA
email: moth@ra.msstate.edu

SOUTHERN TEMPERATE BIOTA AND ECOSYSTEMS "PAST, PRESENT AND FUTURE"
An International Congress of the Southern Connection

The second Southern Connection Congress, "Southern Temperate Biota and Ecosystems" will be held 6-11 January 1997 in southern Chile (probably in Valdivia). The Congress will focus on the evolution and biogeography of key taxonomic groups, ecological dynamics and present and future land use patterns in southern temperate lands. The Congress will include a symposium on "Phylogeny and biogeography of southern temperate invertebrates". The congress will be organised around symposia (with invited speakers), contributed papers and posters. Field trips in southern Chile are planned. The first Southern Connection Congress was held 18-23 January 1993 in Hobart, Tasmania, and was an evident success. Chile was selected to organise the II Southern Connection congress. The official congress language will be English. Posters in Spanish with an English summary will be accepted.

The Southern Connection newsletter is available from Dr Robert Hill, Dept of Plant Sciences, University of Tasmania, GPO Box 252C, Hobart, Tasmania 7001. Fax: (002) 202698; Email: Bob.Hill@plant.utas.edu.au.

Anyone interested in being included on the mailing list for the congress is requested to complete the form which is available from

Dr E.S. Nielsen
ANIC, CSIRO Div. Entomology
GPO Box 1700, Canberra
ACT 2601 Australia
Fax: (06) 246 4264
Email: ebben@ento.csiro.au

THE NICHOLSON CENTENARY MEETING: ON THE FRONTIERS OF POPULATION ECOLOGY
18-22 April 1995
Canberra

Details: *Myrmecia* 30(4): 62-63
Contact: Ms Louise Lawrence
CSIRO Division of Entomology
GPO Box 1700
Canberra ACT 2601
Fax: (06) 246 4000
Tel: (06) 246 4087
Email: louisel@ento.csiro.au

NEW ZEALAND ENTOMOLOGICAL SOCIETY 44TH ANNUAL CONFERENCE
15-17 May 1995
New Zealand Forest Research Institute
ROTORUA

Details: *Myrmecia* 30(4): 63
Contact: Organising Committee
NZ Ent. Soc. 44th Conference
c/- Forest Health Group
NZFRI
PB 3020
Rotorua
New Zealand
Tel: 64-7-347 5899
Fax: 64-7-347 5333
Email: Hutch@tawa.fri.cri.nz

13TH INTERNATIONAL PLANT PROTECTION CONGRESS
2-7 July 1995

Details: *Myrmecia* 30(4): 63-64
Contact: Dr J.C. Zadoks, Organiser
13th International Plant Protection Congress
c/- Holland Organising Centre
Parkstraat 29
2514 JD The Hague
The Netherlands
FAX: 31-70-360-4846

FOURTH INTERNATIONAL SYMPOSIUM ON ADJUVANTS FOR AGROCHEMICALS
Sheraton Hotel, 13 Spring St Melbourne
3-6 October 1995

Details: *Myrmecia* 30(4): 64
Contact:
Fiona Richardson
FISAA Symposium
PO Box 1108
FRANKSTON VIC 3199
Tel: 03 785 0137
Fax: 03 785 2007

XX INTERNATIONAL CONGRESS OF ENTOMOLOGY
Florence (Italy)
August 25 - 31, 1996
Palazzo dei Congressi

Information and copies of the registration form can be obtained from:
Organising Secretariat O.I.C.
Via A. La Marmora, 24
50121 Florence
ITALY
Tel. ++39-55-5000631
Fax ++39-55-5001912

XIVth International Congress for Tropical Medicine and Malaria
"New Goals for the 21st Century"
Nagasaki Japan, 17-22 November 1996

The First Circular of the above Congress is now available. Further information is available from:
Ms S. Tominaga
XIVth ICTM Secretariat
c/- The Institute of Tropical Medicine
Nagasaki University
1-12-4, Sakamoto
Nagasaki, 852 JAPAN
(The editor of this publication has three copies of the first Circular, if anyone wants one)

THE AUSTRALIAN ENTOMOLOGICAL SOCIETY
26 AGM AND SCIENTIFIC CONFERENCE
Tamworth, NSW. 23-26 September 1995

The 26th Annual Conference of the Australian Entomological Society will be held at Farrer Memorial Agricultural High School, Tamworth, NSW from 23rd to 26th September 1995. The conference will be convened by Tamworth entomologists **Robin Gunning, John Hosking** and **Royce Holtkamp**.

Farrer High School is situated on the outskirts of Tamworth (about 10km from the Post Office) and is adjacent to the Tamworth Agricultural Research Centre. The school is surrounded by farmland and has nice views over the city of Tamworth and the Great Dividing Range. The School has a hall which will seat up to 400, classrooms for smaller, concurrent sessions and a large new gymnasium suitable as a poster / display venue. Farrer is a boarding school and has excellent residential and catering facilities. Both single accommodation and rooms for family groups can be arranged. School accommodation should be inexpensive. For those who wish to stay in Tamworth itself, there are motels, hotels and caravan parks to suit all tastes and budgets.

The major themes of the conference will be insect conservation, biological control, cotton entomology and insecticide resistance as well as more general sessions. Features of the conference will be a keynote address on insect conservation and a cotton entomology symposium.

On the social side, there will be a day-long excursion to a spectacular national park in the New England gorge country. The conference dinner will be held at a restaurant venue in Tamworth and, during the conference, more casual social functions will be held at the venue and at the Agricultural Research Centre. There will be a conference Fun Run (with Robin as race director). "Tourism Tamworth" can arrange tours of Tamworth, a local vineyard and, if delegates are desperate enough, there is also country music!

ANIC Technical Training Course

The next ANIC Technical Training Course will be held 11-15 September 1995. The course is designed to provide technical training for entomological technicians working with research collections of insects and related organisms or specimens for taxonomic study and identification and will cover all aspects of entomological techniques including collecting specimens, pinning, preparation, labelling, storing and curation.

The course, designed by the ANIC Collection Manager, Dr Geoff Clarke and Mr Murray Upton, will draw upon the expertise of ANIC staff for teaching and demonstration. The course, limited to 15 participants, will cost $450.00 per person plus accommodation.

All interested persons should contact Geoff Clarke on (ph.) 06 246 4036, (fax) 06 246 4000, Internet geoffc@ento.csiro.au to register expressions of interest. Moderately priced accommodation can be arranged at the participant's request.

THRIPS IN AUSTRALIA
A National Workshop on Methods, Biology and Management
Gosford HRAS
25-27 July 1995
FIRST NOTICE

Prof. Laurence Mound, world authority on the Thysanoptera, will be spending 12 months in Australia from March 1995 on a CSIRO McMaster Fellowship and has agreed to participate in a national workshop in order to help pass on his practical knowledge to Australian thrips researchers and technicians. This workshop will be held at the Gosford Horticultural Research and Advisory Station 25 - 27 July 1995.

The aim of the workshop is to provide a forum to discuss practical aspects of thrips research and methodology, to encourage participants to pass on their experiences and ways of doing things and to pick up on the practices of others. It is hoped that a proceedings will be produced at the end of the course.

A registration fee will cover lunches, teabreaks and proceedings. A workshop dinner will be organised for the 26th July and a separate charge will be notified to cover this.

You are invited to attend this workshop. Indications of interest in attending should be advised by return fax, telephone or email to Dr S. Goodwin at the addresses below.

Dr S. Goodwin, NSW Agriculture, Gosford
Fax: (043) 48 1900
Telephone: (043) 48 1929
Email: goodwis@agric.nsw.gov.au

NOTICES

MOTH COLLECTORS!

Marcus Matthews has recently begun a three year revision of the Australian Heliothinae. In addition to the well known *Helicoverpa armigera* and *H. punctigera* there are some 40 - 60 species in *Heliothis sensu stricto, Helicoverpa, Heliocheilus* and *Adisura*. The project aims to resolve the taxonomic problems associated with, and provide a predictive classification of, the Australian fauna. In addition, as complete a body of information on life histories and species' distributions will be compiled.

Marcus is interested in receiving any relevant specimens or information from any part of Australia. Material sent on loan will be returned identified at the end of the project. Specimens need to be pinned and labelled (but not necessarily set) and sent to Marcus at the ANIC. All useful information and material provided will be included in the published revision due to appear late in 1997.

Marcus has prepared an informal colour identification sheet to assist collectors in identifying heliothines at collecting sheets. Anybody who feels that they could make use of one of these please contact (up to the end of May) the editor of *Myrmecia* at the address on the cover or (from June) Marcus at the addresses below and you will be sent one FREE.

If you have any information on the Australian Heliothinae that you think may be useful for Marcus or if you wish to discuss how you might assist this project, he can be contacted by mail at ANIC, CSIRO Entomology, GPO Box 1700 Canberra ACT 2601, by phone on (06) 246 4281 or by email to marcusm@ento.csiro.au. He would be very glad to hear from you.

The Coleopterists Society
Announces the First Annual Competition for
the Jean Theodore Lacordaire Prize

CALL FOR NOMINATIONS

The 1994 Lacordaire Prize will be awarded to the author of the best paper dealing with the systematics or biology of the Coleoptera, based upon a doctoral dissertation, published in the calendar year 1994. Nominations are solicited, and the Prize will be awarded, according to the following procedures and criteria.

Nominations are open to single-authored papers whose primary subject is some aspect of coleopteran systematics or biology, published in a widely distributed publication, paper and ink format, and available by subscription (journal) or sale (book). Nominations consist of a letter of nomination including the name and citation of the publication, the name and current address of the author, a letter from the major professor attesting to the fact that the paper is based upon a doctoral dissertation, and 6 original reprints of the work. If available, a black and white photograph of the author is requested for publicity purposes. Nomination materials cannot be returned. Self-nominations are not accepted.

For further information or to make a nomination, contact: Dr. Michael A. Ivie, Chair
Lacordaire Prize Selection Committee
c/o Department of Entomology
Montana State University
Bozeman, MT 59717 USA
Email: ueymi@msu.oscs.montana.edu
FAX: USA (406) 994-6029
Deadline for receipt of nominations 1 MAY 1995

SOUTH AFRICAN BEETLES FOR EXCHANGE

As curator of Coleoptera here, I am interested in finding people in other southern hemisphere areas that might be interested in swapping specimens. I am interested in buprestids of the world and would be able to send material in exchange from many other families. If there is something from this part of the world that I might be able to assist you with, please contact me:

Dr. C. L. "Chuck" Bellamy
Coleoptera Dept., Transvaal Museum
P.O. Box 413
Pretoria 0001
SOUTH AFRICA
email: transvaal.museum@digitec.co.za

AUSTRALIAN BIOLOGICAL RESOURCES STUDY

RESEARCH PRIORITIES FOR 1996 FUNDING

The aim of the ABRS Participatory Program research grant scheme is to support the documentation of Australia's biological diversity and to improve and increase the national taxonomic effort. The intent of the scheme is to support rigorous taxonomic treatment at a species level and work contributing to regional or continental generic or higher level reviews, including the development of identification tools. All applications are assessed and evaluated on the basis of peer review and comparative merit.

Applicants should not that the research objectives of the ABRS Participatory Program are to develop taxonomic understanding of the Australian biota in areas of national priority and in areas needed to support the publication of *Fauna of Australia* and the *Zoological Catalogue of Australia*. The ABRS Advisory Committee has determined to invite applications for grants in 1996 as follows (*please note - priorities not relevant to Entomology have been omitted from this advertisement to save space - Ed.*):

1. Taxonomic Research in Areas of National Priority on groups which:

- contribute significantly to the understanding of Australia's biological diversity;
- provide a sound biosystematic foundation for ecological research and monitoring in significant ecosystems, particularly in aquatic habitats (both marine and freshwater), soils and forests;
- have a high conservation status;
- are of economic significance; or
- provide insight crucial to the understanding of the world flora and fauna.

2. Taxonomic Research in Areas Supporting the ABRS Publication Programs:

Acarina:	Astigmata
Arachnida:	Amaurobioidea - Dictynoidea (generic overviews); Gnaphosoidea (generic overviews)
Insecta:	Coleoptera: Cerambycidae (generic overviews), Staphylinidae (generic overviews); Scirtidae Lepidoptera: small gelechioid families
General:	Groups listed as priorities in previous years are not excluded, and may be applied for under 1 above as appropriate.

Further information may be obtained from Dr Jean Just (06) 250 9430. Application forms are available from administrative offices of research organisations, or the Secretary, ABRS Advisory Committee, GPO Box 636, Canberra ACT 2601, phone (06) 250 9554. Applications must be submitted on appropriate forms to the Secretary, ABRS Advisory Committee.

Closing Date for Research Applications: 10 April 1995

NEW PUBLICATIONS

New Publication from the Australian Entomological Society

"CONSERVATION OF NON-MARINE INVERTEBRATES: AUSTRALIAN RESEARCH PROJECTS, 1994"

For those involved in conservation research, this publication provides a valuable reference listing of Australian Institutions conducting conservation projects in Australia, their liaison officers and contact phone numbers. It also lists over 140 current conservation projects, their aim(s), project leader(s) and contact phone numbers.

Price - $10 (incl. postage).
Orders with payment to:
AES Treasurer
Dept of Crop Protection
Waite Campus
University of Adelaide SA 5064

ZOOLOGICAL CATALOGUE OF AUSTRALIA VOLUME 22

Protura, Collembola, Diplura

This volume is the authoritative source of information on the Australian native and introduced Protura, Collembola and Diplura. It contains many new taxonomic decisions and is an essential text for those involved with these groups.

The Collembola has been compiled by **Penelope Greenslade** and the Protura and Diplura by **Keith Houston**.

ISBN: 0 643 05672 6
Size: 250 X 176 mm (B5)
Pages: 190
Cover: Hardback:
Publication Date: November 1994
Australian Price: $A49.95 + $A6 postage for direct orders.
Oversease Orders: $US49.95 + $US6 for air delivery of direct orders.

Send your orders to: CSIRO Information Services
PO Box 89 (314 Albert St)
East Melbourne Vic 3002
Phone: (03) 418 7217
or toll-free in Australia: 1800 645 051
Fax: (03) 419 0459

The Australian Entomological Society

Phil Carne Prize 1995

'A prize for scientific writing to foster high-quality entomological research in young scientists'

The Executive takes pleasure in calling for applications for The Australian Entomological Society's Phil Carne Prize for 1995.

The name of the prize celebrates contributions made by Dr Phil Carne to the science of entomology and to The Australian Entomological Society.

The prize is open to any student, enrolled full-time or part-time, who is an undergraduate, honours or postgraduate student whose entry has not been submitted prior to 30 June 1995.

Entrants do not have to be members of The Australian Entomological Society.

Entries for the prize should be in the form of a scientific paper set out under the subheadings: Introduction, Materials and Methods, Results, Discussion, Acknowledgments, References. They should be 5000 words or less in size (not including references, tables, figures or summary), double-spaced typing and should be accompanied by a 100 word summary.

Three copies of entries need to be submitted to the Secretary of the Society by the closing date of 1 August 1995. Please provide stamps or a postal order to cover cost of returning entries, if required.

Entries are to be the sole work of the entrant, apart from the normally accepted input of an academic supervisor. Thus, entries should bear only the name of a single entrant.

Each entry is to be accompanied by a completed Application Form.

- entries will be reviewed by a Selection Committee to be appointed by the President of the Society.

- The winner will be invited to present the winning paper at the Society's 26th Annual General Meeting and Scientific Conference to be held in Tamworth, NSW, during 23 - 28 September 1995.

The prize will be in the form of cash remuneration to the value of $300, free conference registration, accommodation and return economy airfair to the Annual Conference, and presentation of a plaque.

The Australian Entomological Society
Phil Carne Prize 1995
Application Form

Please find attached three copies of my scientific paper for consideration for the 1995 Phil Carne Prize

Name :_____

Contact address:_____

Telephone no._____Facsimile no._____

Professional Qualifications:_____

_____

Title of Entry_____

Origin of of Entry:

_____

Degree Institute Part/Full Time

Name of First Supervisor:_____

Endorsement of Head of Department: (signature)_____

I declare that this paper is my work and has not been submitted for publication prior to 30 June 1995.

Signed:_____

Dated:_____

Return completed form with three copies of entry , by 1 August 1995, to:

Dr Paul Madge
AES Honorary Secretary
C/o Dept of Crop Protection
Waite Campus, University of Adelaide
Glen Osmond SA 5064

THE AUSTRALIAN ENTOMOLOGICAL SOCIETY RESEARCH GRANTS 1995

'Grants to encourage the advancement and dissemination of entomological knowledge, particularly in relation to Australian insects and allied forms'

The Executive takes pleasure in calling for applications for The Australian Entomological Society's Research Grants for 1995.

Total funds available will be in the order of $3000. Applications may be submitted for such items as travel, equipment or technical support.

The grants are primarily for small, short - term projects and will be available only to financial members of the Society of at least 12 months standing. Groups will be eligible provided that the primary researcher is a member.

Applications may be for any amount up to $1000, but remember that small, short-term projects which enable a diverse range of work to be funded may be favoured.

Three copies of your application need to be submitted to the Secretary of the Society by the closing date of 1 August 1995. Please provide stamps or a postal order to cover the cost of returning applications, if required.

The President of the Society will appoint and convene a Selection Committee to allocate and administer the grants. Successful applicants will be announced at the Society's Annual General Meeting on 25 September 1995.

A report to the Executive in a form suitable for publication in *Myrmecia* will be required by the end of 1996.

THE AUSTRALIAN ENTOMOLOGICAL SOCIETY

RESEARCH GRANTS 1995

APPLICATION FORM

Please find attached three copies of my submission for an AES Research Grant for 1995:

Name :_____

Contact address:_____

Telephone number:_____Facsimile number:_____

Title of Entry:_____

The following details are required in the application:

*Background

*Objectives

*Methodology

*Expected outcomes

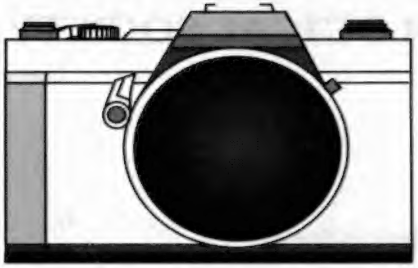
*Detailed budget, including resources (eg. vehicle, lab. equipment) provided by the applicant or from other sources

*Expected duration and time devoted to the project

Return completed form with three copies of application, by 1 August 1995, to:

Dr Paul Madge
AES Honorary Secretary
C/o Dept of Crop Protection
Waite Campus, University of Adelaide
Glen Osmond SA 5064

THE AUSTRALIAN ENTOMOLOGICAL SOCIETY



INSECT PHOTOGRAPHIC COMPETITION 1995

'A competition to encourage photographic expertise in the field of entomology'

The Australian Entomological Society invites unpublished or not previously displayed entries to this competition which will be judged and displayed at the Society's Annual General Meeting and Scientific Conference to be held in Tamworth, NSW, during 23 - 28 September 1995.

The competition is open to members and non-members of the Society.

Entries (prints only) cannot be greater than 20 x 25cm, with the name and address of the entrant on the back. Postal entries must be carefully packed and include stamps or a postal order sufficient to cover the cost of return postage, where necessary.

Categories:
Black-and-White and Colour
* Insects,
* Micrographs
* People in entomology

Entries will be reviewed by a Judging Committee. The Society shall have the right to display selected works in public and to reproduce the photographs, with appropriate acknowledgement, on Society goods which it sells, and in magazines, for a fee.

Entries must be in the hands of the Convenor of the Annual General Meeting by 8 September 1995.

Total funds avaliable for cash prizes will be in the order of $1500.

Each entry is to be accompanied by the following information:
* Name of entrant, *Postal Address,
* Category and title of entry/entries, *Scientific name of insect, where applicable.

Forward the entry/entries and the above information to:
Dr R V Gunning,
Convenor of AES 26th Annual General Meeting
C/o Agricultural Research Centre,
PMB 944,Tamworth NSW 2340

THE AUSTRALIAN ENTOMOLOGICAL SOCIETY
INSECT ILLUSTRATION COMPETITION
1995

'A Competition to encourage and recognise high standards of entomological illustration'

The Australian Entomological Society invites unpublished entries to this competition which will be judged and displayed at the Society's Annual General Meeting and Scientific Conference to be held in Tamworth, NSW, during 23 - 28 September 1995.

The competition is open to members and non-members of the Society.

Entries, up to three per entrant, must be either black and white or coloured, whole-body (dorsal or lateral views) taxonomic illustrations of insects or allied forms, such as shown in *The Insects of Australia*. The mounted illustrations should not exceed 21 x 30 cm (approx. A4 size) and must be suitable for reproduction after reduction of 50%. Postal entries must be carefully packed and include stamps or a postal order sufficient to cover the cost of return postage, where necessary.

Entries will be reviewed by a Judging Committee.The Society shall have the right to display selected works in public and to reproduce the illustrations, with appropriate acknowledgement, on Society goods which it sells, and in magazines, for a fee.

Entries must be in the hands of the Convener of the Annual General Meeting by 8 September 1995

Categories: Student Section (1) Colour (2) Black and White
Open Section (1) Colour (2) Black and White

Total funds avaliable for cash prizes will be in the order of $1500.

Each entry is to be accompanied by the following information:
*Name of entrant, *Postal Address, *Current enrolment details (if a student), *Category of entry/entries, *Scientific name of Insect.

Forward entry/entries and above information to: Dr R V Gunning, Convenor of AES 26th Annual General Meeting, C/o Agricultural Research Centre, PMB 944, Tamworth NSW 2340

THE AUSTRALIAN ENTOMOLOGICAL SOCIETY INC.

FORM OF NOMINATION FOR MEMBERSHIP

To be returned to:
Dr P Madge, Secretary of AES, c/o Dept. of Crop Protection
Waite Campus, University of Adelaide, Glen Osmond SA 5064

We the undersigned

Proposer: . . . . . (print name here) . . . . . (signature)

Seconder: . . . . . (print name here) . . . . . (signature)

being financial members of the Society, propose the following for membership of The Australian Entomological Society Inc.:

Title . . Initials . . Given Name . . . . . Family Name . . . . . .

of (Address): . . . . . .

. . . . . .

Tel: . . . . . Fax: . . . . . .

Email: . . . . . Degrees, etc: . . . . . .

Occupation or Appointment: . . . . . .

Interests, experience, and publications in entomology for publication in the News Bulletin *Myrmecia* (please attach brief resumé):

I accept nomination and undertake if elected to abide by the rules of the Society, and to pay annual subscriptions by the date prescribed.

Signature: . . . . . **Date:** . . . . . .

For **1995**, new student/retired members - $22.50; new full members - $45.00. **Payment with nomination required.**

. . . . . .

(EXECUTIVE USE ONLY)

Nom. received: . . . . . Nom. considered at meeting: . . . . .

Payment received: . . . . . Elected at meeting: . . . . . .

Membership type: . . . . . Applicant advised: . . . . . .

REGIONAL COUNCILLORS

Queensland
Dr T.A. Heard
CSIRO Entomology
PMB 3
Indooroopilly Qld 4068
Ph (07) 377 0843
Fax (07) 871 0819
Email:
tim@burnout.brs.ento.csiro.au

Mr G.B. Simpson
DPI Entomology Branch
Box 102 Toowoomba Q 4350
Ph (076) 31 4313
Fax (076) 34 7421

Dr H.A.C. Fay
Qld Dept of Primary Industry
PO Box 1054
Mareeba Q 4880
Ph (070) 92 1555
Fax (070) 92 3593

New South Wales
Mr J.H. Hawking
Murray-Darling Freshwater Res. Centre
PO Box 921
Albury NSW 2640
Ph (060) 48 1002
Fax (060) 43 1626
Email: hawkingj@
Watson.canberra.edu.au

Ms L. Rodgerson
School Biol. Sciences
Macquarie Univ. NSW 2109
Ph (02) 805 8197
Fax (02) 805 8245
Email:
lrodgers@rna.bio.mq.edu.au

Mr S.L. Doggett
Dept of Medical Entomology
Westmead Hospital
Westmead NSW 2145
Ph (02) 633 7265
Fax (02) 633 5314
Email:
stephend@bacto.wh.su.edu.au

Victoria
Mr A. Henderson
Inst. Horticultural Devel.
Private Bag 15
South East Mail Centre
Victoria 3176
Ph (03) 210 9222
Fax (03) 800 3521
Email:
hendersona@knoxy.agvic.gov.au

Dr R. Coy
Museum of Victoria
71 Victoria Cres
Abbotsford Vic 3067
Ph (03) 419 5200
Fax (03) 416 0475

Australian Capital Territory
Dr P.S. Cranston
CSIRO Entomology
GPO Box 1700
Canberra ACT 2601
Ph (06) 246 4282
Fax (06) 246 4000
Email petercr@ento.csiro.au

Dr D. Dall
CSIRO Entomology
GPO Box 1700
Canberra ACT, 2601
Ph (06) 246 4117
Fax (06) 246 4000
Email davidd@ento.csiro.au

South Australia
Mr W.E. Frost
Primary Industries SA
GPO Box 1671
Adelaide SA 5001
Ph (08) 303 9543
Fax (08) 303 9542

Dr M.A. Keller
Dept of Crop Protection
Waite Campus
University of Adelaide
PO Glen Osmond
South Australia 5064
Ph (08) 303 7263
Fax (08) 379 4095
Email:
mkeller@waite.adelaide.edu.au

Tasmania
Mr R. Bashford
Forestry Commission
GPO Box 207B
Hobart Tas 7001
Ph (002) 33 8231
Fax (002) 33 8270

Western Australia
Dr D.F. Cook
WA Dept of Agriculture
Baron-Hay Court
South Perth WA 6151
Ph (09) 368 3250
Fax (09) 367 2625
Email:
DavidC@apb.agric.wa.gov.au

Northern Territory
Mr C.G. Wilson
Berrimah Farm
GPO Box 990
Darwin NT 0801
Ph (089) 89 2211
Fax (089) 89 2181

REPRESENTATIVE COUNCILLORS

Entomological Society of Queensland
Dr J. King
QDPI Forestry Service
PO Box 631
Indooroopilly Q 4068
Ph (07) 877 9716
Fax (07) 371 2217

Entomological Society of New South Wales
Dr A.D. Clift
BCRI, PMB 10
Rydalmere NSW 2116
Ph (02) 683 9777
Fax (02) 630 4475

Entomological Society of Victoria
Mr P. Carwardine
2a Victoria Rd
Malvern, Vic 3144
Ph (03) 571 8958 (AH)

OVERSEAS CORRESPONDENTS

New Zealand
Mr J. Tenquist
Wallaceville Animal Research Centre
Private Bag
Upper Hutt, NZ
Email:
tenquistj@agresearch.cri.nz

Papua New Guinea
Prof. R. Kumar
Dept of Agriculture & Livestock
PO Box 1430
BOROKO
Papua New Guinea
Ph 67-5-230268
Fax 67-5-230279

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Fax (02) 634 4166

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